Institute for Apprenticeships & Technical Education

End-point assessment plan for Ordnance Munitions Explosives Technician apprenticeship standard

Apprenticeship standard reference number	Apprenticeship standard level	Integrated end-point assessment
ST0833	4	No

Contents

Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Ordnance Munitions Explosives Technician apprenticeship standard. It is for end-point assessment organisations (EPAOs) who need to know how EPA for this apprenticeship must operate. It will also be of interest to Ordnance Munitions Explosives Technician apprentices, their employers and training providers.

Full time apprentices will typically spend 30 months on-programme (before the gateway) working towards the occupational standard and complete the required off-the-job training in line with the apprenticeship funding rules. All apprentices must spend a minimum of 12 months on-programme.

An approved EPAO must conduct the EPA for this apprenticeship. Employers must select an approved EPAO from the apprenticeship provider and assessment register (APAR).

The EPA period should only start, and the EPA be arranged, once the employer is satisfied that the apprentice is deemed to be consistently working at or above the level set out in the occupational standard, all of the pre-requisite gateway requirements for EPA have been met and can be evidenced to an EPAO.

The EPA must be completed within an EPA period lasting typically 6 months, after the EPA gateway.

The EPA consists of 3 discrete assessment methods.

The individual assessment methods will have the following grades:

Assessment method 1: Practical demonstration with question and answer session

· Fail
· Pass
· Distinction

Assessment method 2: Interview underpinned by a portfolio of evidence

· Fail
· Pass
· Distinction

Assessment method 3: Knowledge Test

· Fail
· Pass
· Distinction

Performance in the EPA will determine the overall apprenticeship standard grade of:

· Fail
· Pass
· Distinction

EPA summary table

On-programme (typically 30 months)	Training to develop the occupation standard's knowledge, skills and behaviours (KSBs).
End-point assessment gateway	• Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard. • have achieved English and mathematics qualifications in line with the apprenticeship funding rules Apprentices must complete: • A portfolio of evidence
End-point assessment (which will typically take 6 months)	Assessment method 1: Practical demonstration with question and answer session With the following grades: · Fail · Pass · Distinction Assessment method 2: Interview underpinned by a portfolio of evidence With the following grades: · Fail · Pass · Distinction Assessment method 3: Knowledge Test With the following grades: · Fail · Pass · Distinction
Professional recognition	Aligns with recognition by: • Institute of Explosives Engineers

Length of end-point assessment period

The EPA will be completed within an EPA period lasting typically 6 months, after the EPA gateway.

Any supporting material which underpins an EPA assessment method should be submitted at the gateway. The portfolio of evidence will be submitted at the gateway.

Order of assessment methods

The assessment methods can be delivered in any order.

Gateway

The EPA period should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, that is to say they are deemed to have achieved occupational competence. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

In addition to the employer's confirmation that the apprentice is working at or above the level in the occupational standard, the apprentice must have completed the following gateway requirements prior to beginning EPA:

- confirm they are ready to take the EPA
- have achieved English and mathematics qualifications in line with the apprenticeship funding rules

For Practical demonstration with question and answer session:

- no specific requirements

For Interview underpinned by a portfolio of evidence, the apprentice will be required to submit:

- A portfolio of evidence which is submitted to the EPAO at the Gateway.

The portfolio of evidence requirements are as follows:

- The apprentice will have prepared a portfolio of evidence during the on-programme phase to support the interview. The format and structure of the portfolio must be agreed between the employer and apprentice and will be presented electronically.
- The portfolio of evidence will be submitted to the EPAO at the gateway.
- Reflective accounts and self-evaluation can only be included to evidence B2.

- The portfolio should contain written accounts of activities that have been completed and referenced against the knowledge, skills and behaviours, supported by appropriate evidence, such as video and audio extracts (these should be a maximum of 5 minutes in length); written statements; project plans; reports; minutes; observation reports; presentations; feedback from managers, supervisors or peers; papers or reports written by the apprentices; performance reviews. This is not a definitive list; other evidence sources are allowable.
- The content must be sufficient to evidence the apprentice can apply the knowledge, skills and behaviours required as mapped to assessment method 2 (Interview). There must be at least one piece of evidence relating to each knowledge, skill and behaviour mapped to assessment method 2. One piece of evidence can be referenced against more than one knowledge, skill or behavioural requirement. It is expected that there will typically be a minimum of 12 pieces and a maximum of 15 pieces of evidence.
- The evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer confirming this.

The portfolio is not assessed, it informs the questioning for the interview and should be referred to by the apprentice to support their responses.

For Knowledge Test:

- no specific requirements

Assessment methods

Assessment method 1: Practical demonstration with question and answer session (This assessment method has 1 component.)

Assessment method 1 component 1: Practical demonstration with question and answer session

Overview

Apprentices must be observed by an independent assessor completing 1 practical demonstration in which they will demonstrate the KSBs assigned to this assessment method. The end-point assessment organisation will arrange for the practical demonstration to take place, in consultation with the employer. The practical demonstration with question and answer session must be carried out over an assessment time of 2 hours 30 minutes. The demonstration has two discrete parts, and the individual parts may not be split, other than to allow comfort breaks as necessary. The independent assessor has the discretion to increase the time of the practical demonstration by up to 10% to allow the apprentice to complete the last task that is part of this element of the EPA.

The independent assessor may conduct and observe only one apprentice during this assessment method. However due to Health and Safety operational requirements, some of the tasks may require two people to complete or support the task (this equates to the apprentice and one other person). The EPAO will arrange for a second person to be present for the assessment and can agree this with the employer. The apprentice must complete one task. The apprentice will instruct the person what to do throughout the task. The second person must follow the apprentice's instructions and cannot ask for clarity on the instructions. If a second person is required, they must not be an apprentice and should be a work colleague that is independent of the apprentice undertaking the task and working at or above the level of the standard. All of the tasks must be attributable to the apprentice and the second person should provide a written statement to confirm this. The independent assessor should ensure that the second person does not influence the apprentice's grade and is responsible for briefing the second person.

The rationale for this assessment method is:

The OME occupational sector involves practical activity best assessed through practical demonstration; it will replicate the working environment in a valid way and employers would doubt the occupational competence of an individual not assessed in this way.

This method will assess a core element of the role and is a critical part of this occupation and doing this in a simulated environment will enable the apprentice to conduct this covering the breadth and depth of KSBs, and ensures health, safety and security is maintained.

Delivery

Apprentices must be provided with both written and verbal instructions on the tasks they must complete, including the timescales they are working to.

The practical demonstration should be conducted in the following way to take account of the occupational context in which the apprentice operates:

During the practical demonstration, the apprentice may be provided with live or simulated explosive materials to carry out the tasks outlined in this assessment method. The location for the practical demonstration must conform with the requirements of the use of live or simulated explosives.

The practical demonstration must provide coverage of the KSBs assigned to this assessment method and may be similar to the following examples:
Example 1: Mixing of explosives: -

Part 1. Select and prepare the workplace and equipment for an OME procedure (including demonstrating all protective arrangements and PPE)

Part 2. Undertake required mixing of explosives to required specifications, this would include obtaining explosive ingredients from stock, weighing measuring and dispensing the ingredients and using the appropriate equipment, ranging from hand sieves to complex mechanical mixers, to achieve the desired consistency and homogeneity. The individual must understand the requirements for handling, transporting and storing the prepared explosive and also the safe means for cleaning the process equipment afterwards. Including:

- Preparing and undertaking the process for quarantining or segregating OME in preparation for disposal, packaging and storage by an approved means.
- Carrying out explosive's inspections, inventory updates in line with explosives regulatory procedures.

All parts must be successfully completed.

Example 2 Pressing of explosives: -

Part 1. Select and prepare the workplace and equipment for an OME procedure (including demonstrating all protective arrangements and PPE)

Part 2. The pressing of explosives will involve the conversion of an explosive powder into a compacted form which will

a) exhibit the correct chemical and physical behaviour and

b) be robust enough to be handled safety in subsequent assembly or testing operations.

The operator will have to assemble the prescribed tooling, load the appropriate amount and type of explosive and ensure the pressing equipment delivers the appropriate load, at the appropriate rate for the prescribed time. The operator will then inspect the compacted sample to ensure specification requirements for dimensions and density have been met and also reject non-conforming or damaged work. Including:

- Preparing and undertaking the process for quarantining or segregating OME in preparation for disposal, packaging and storage by an approved means.
- Carrying out explosive's inspections, inventory updates in line with explosives regulatory procedures.

All parts must be successfully completed.
Example 3 Initiation of charge for instrumented assessment or small-scale hazard testing: -

Part 1. Select and prepare the workplace and equipment for an OME procedure (including demonstrating all protective arrangements and PPE)

Part 2. Preparation and initiation of an experimental charge requires the operator to rig and set up the explosive train required in a safe and organised sequence. This will be clearly laid out within the trials specification though the operator should understand the rationale behind the preparatory sequence and the safety precautions required to keep themselves and others safe during the hazard testing. Including:

- Preparing and undertaking the process for quarantining or segregating OME in preparation for disposal, packaging and storage by an approved means.
- Carrying out explosive's inspections, inventory updates in line with explosives regulatory procedures.

All parts must be successfully completed.

The practical demonstration should be conducted in the following way to take account of the occupational context in which the apprentice operates and should demonstrate all the KSB assigned to this assessment method:

The assessment will be split into two distinct parts:

Part 1 – 30 minutes total (If the apprentice completes this in less than 25 minutes, they can then move on to part 2)
• The apprentice will be provided with a task to read.
• The apprentice will review the task, if they want to the apprentice will be able to make notes on how they are going to undertake the task (these notes will not be assessed) and ensure that all equipment and resources are available – 15 minutes.

They will:
Set up the equipment required for the task and ensure that additional support (such as second person for Health and Safety or additional equipment) is aware of what their role will be – 15 minutes.

The apprentice will have a 15-minute break in an area where they cannot confer with other apprentices or individuals. During this time the independent assessor will check that the equipment has been set up correctly and additional support and resource (such as a second person for Health and Safety or additional equipment) are available.

EPAOs must manage invigilation of apprentices during breaks in order to maintain security of the assessment in line with their malpractice policy.

Part 2 – 2 hours

The apprentice will undertake the practical demonstration that has been set – 1 hour and 30 minutes. If a second person is required for the correct completion of the task or for health and safety reasons, their role will be to follow instructions from the apprentice and not to carry on with the task without

instructions from the apprentice. They will not be allowed to advise the apprentice on what they need to do. If it appears that the apprentice is not following safety procedures, the independent assessor must intervene at this stage and not the second person.

Once the practical demonstration has been completed, the independent assessor will ask questions – 30 minutes.

EPAOs will create and set open questions to assess related underpinning knowledge, skills and behaviours.

In the event of re-sits or re-takes the apprentice will be presented with a different task.

The questions must be asked after the practical demonstration is complete. The independent assessor must ask a minimum of 5 questions. Questioning must be completed within the total time allowed for the practical demonstration with question and answer session. The questioning can assess those KSBs that did not naturally occur during the practical demonstration although these must be kept to a minimum.

There may be breaks during the practical demonstration to allow the apprentice to move from one location to another.

KSBs observed and answers to questions must be documented by the independent assessor.

The independent assessor will make all grading decisions.

Questions and resources development

EPAOs will create and set open questions to assess related underpinning KSBs.

EPAOs will produce specifications to outline in detail how the practical demonstrations will operate, what it will cover and what should be looked for. It is recommended that this be done in consultation with employers. EPAOs should put measures and procedures in place to maintain the security and confidentiality of their specifications if employers are consulted. Specifications must be standardised by the EPAO.

EPAOs must develop ‘practical specification banks’ and ‘question banks’ of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain and the questions, are fit for purpose. The specifications, including questions relating to underpinning KSBs must be varied, yet allow assessment of the relevant KSBs.

Venue

Practical demonstrations must be conducted in one of the following locations:

- the employer’s premises
- a suitable venue selected by the EPAO (e.g. a training provider's premises or another employer’s premises)

If the venue is the apprentice’s workplace, the employer must provide all the necessary tools and equipment, if it takes place off-site, then the EPAO must provide all the necessary tools and equipment, although they may liaise with the employer to provide these.
The venue must:

- hold the appropriate explosives license if live explosive material is being used during the practical demonstration with questions.

Support material

EPAOs will produce the following material to support this assessment method:

- EPAO should create a bank of tasks for the demonstration of practice to assess the KSBs mapped to this method.
- Provide a specification of how the demonstration of practice will be set up, including the background material to be provided
- Provide the grading criteria for the independent assessors to use and record
- Develop a bank of questions for the independent assessor
- Provide a document for the apprentice and employer on how the assessment should be conducted

Assessment method 2: Interview underpinned by a portfolio of evidence (This assessment method has 1 component.)

Assessment method 2 component 1: Interview underpinned by a portfolio of evidence

Overview

This assessment will take the form of an interview which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. It will involve the questions that will focus on the KSBs assigned to this assessment method and the apprentice can use evidence of their portfolio to support their responses.

The rationale for this assessment method is:

This method was judged to be the most appropriate for the KSBs being assessed. It allows a range of examples to be brought forward during the interview and ensures that excellence can be evidenced and acknowledged. Some KSBs cannot be reliably assessed in the practical demonstration and an interview is the most appropriate way to assess those KSBs that will not naturally occur during the practical demonstration, allowing the apprentice to draw on their experience to demonstrate competence. The purpose of the questioning is to assess the depth of understanding of the KSBs.

Delivery

The independent assessors will conduct and assess the interview.

The interview must last for 60 minutes. The independent assessor has the discretion to increase the time of the interview by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must combine questions from the EPAO's question bank and those generated by themselves.
The interview will be conducted as set out here: This is a 1:1 interview in an appropriate environment (a quiet room free from distraction). Evidence must be captured using documentation produced by the EPAO. The independent assessor will ask a minimum of 12 open questions taken from an EPAO question bank and those generated by the independent assessor. Follow up questions can be used to draw out further evidence.

The apprentice should be encouraged to refer to their portfolio of evidence during the interview to

support their responses. The independent assessor should have a minimum of 10 days to review the contents of the portfolio in order to generate appropriate questions.

Video conferencing can be used to conduct the interview, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in any way e.g. use of a 360 degree camera to allow the independent assessor to look around the round the room during the interview.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the interview.

The independent assessor will make all grading decisions.

Venue

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

The interview can take place in any of the following:

· employer's premises
· a suitable venue selected by the EPAO (for example a training provider's premises)
· Skype (or equivalent)

Other relevant information

A structured question bank must be developed by EPAOs. The 'question bank' must be of sufficient size to prevent predictability and the EPAO must review it regularly (at least once a year) to ensure that it's content, are fit for purpose. The questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits or re-takes.

Independent assessors must be developed and trained by the EPAO in the conduct of interview and reaching consistent judgement.

EPAOs will produce the following material to support this assessment method:

- Outline of the assessment method's requirements
- Marking materials
- Data capture form for evidence and gaps
- Bank of questions to be maintained and meet current rules
- Guidance document for employers and apprentices on the process and timescales for the discussion as well as a description of the purpose of the discussion
- Guidance document for independent assessors on how to carry out the assessment

Assessment method 3: Knowledge Test (This assessment method has 1 component.)

Assessment method 3 component 1: Knowledge Test

Overview

The rationale for this assessment method is:

This is a robust method to test some of the knowledge in the apprenticeship standard. It also complements the other methods as it tests aspects that can't be tested elsewhere.

Test Format

The test can be:

· Computer based

It will consist of 40 questions closed response questions (multiple-choice questions) - 10 of which will based on 2 given scenarios.

Test administration

Apprentices must have 90 minutes to complete the test.

The test is closed book, which means that the apprentice cannot refer to reference books or materials.

Apprentices must take the test in a suitably controlled environment that is a quiet space, free of distractions and influence, in the presence of an invigilator arranged by the EPAO. The invigilator may be the independent assessor, or another external person employed by the EPAO or specialised (proctor) software, if the test can be taken on-line. The EPAO is required to have an invigilation policy that will set out how the test is to be carried out. This will include specifying the most appropriate ratio of apprentices to invigilators to best take into account the setting and security required in administering the test.

The EPAO is responsible for ensuring the security of testing they administer to ensure the test remains valid and reliable (this includes any arrangements made using online tools). The EPAO is responsible for verifying the validity of the identity of the person taking the test.

This assessment method will be carried out as follows:

The 40 multiple-choice questions will be made up of:

- 30 multiple-choice questions that should have 4 options of which 1 will be correct.
- 10 multiple-choice questions which will be based on two given scenarios, 5 questions will be asked per scenario which will still require the apprentice to select 1 option from a choice of 4. These questions ensure the apprentice can demonstrate that they can identify which knowledge or learning is appropriate for the given situation. The given scenario will be up to 150 words long based on a true to life OME scenario. For example, the scenario testing K15 might summarise a quality management system, with the 5 multiple-choice questions asking respondents to identify key activities required in these throughout the OME lifecycle. For K9 the scenario may describe the principles that underpin OME with the 5 multi-choice questions based on the concepts and components for a given explosive effect.

Multiple-choice tests should sample across the areas mapped to it to allow the test to determine the strength of the apprentice and avoid becoming too predictable.

The EPAO must source the venue for taking the test.

Marking

Tests must be marked by independent assessors or markers employed by the EPAO following a marking guide produced by the EPAO. Computer marking is also permissible, and is likely to be the preferred option, to improve marking reliability, speed of turnaround and cost efficiencies. The EPAO should notify the apprentice of the results in a timely manner.

Any incorrect or missing answers must be assigned 0 marks. Each correct answer will be assigned 1 mark.

Question and resources development

Questions must be written and standardised by the EPAO and must be relevant to the occupation and employer settings. It is recommended that this be done in consultation with employers of this occupation. EPAOs should also maintain the security and confidentiality of their questions when consulting employers. EPAOs must develop a 'test specification' and 'question banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose (to avoid apprentice familiarity with the questions and to ensure they are current e.g. in terms of OME legislation and regulation). Predictability of questions may also be reduced by multiple-choice tests, and they should determine the apprentice's depth of understanding.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits and re-takes.

Required supporting material

As a minimum EPAOs will produce the following material to support this method:

- a test specification
- sample test and mark scheme
- live test and mark scheme
- analysis reports which show areas of weakness for completed tests or exams and an invigilation policy.

Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments for this apprenticeship standard. This should include how an apprentice qualifies for reasonable adjustment and what reasonable adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this assessment plan.

Weighting of assessment methods

All assessment methods are weighted equally in their contribution to the overall EPA grade.

Grading

Assessment method 1: Practical demonstration with question and answer session

KSBs	Fail	Pass	Distinction
K1 K2 K3 K13 K14 **S1 S2 S3 S4 S7 S9 S10 S12 S14** **B3**	Does not meet the pass criteria	Demonstrate the preparation, operation and supervision of an OME workplace safely in accordance with relevant regulations (K1, K14, K2, S1, S2). Demonstrates how they maintain good housekeeping standards including safe disposal practices associated with environmental factors and regulations in order to make the workplace safe and free from explosive hazards (K13, S10, B3). Demonstrate how they confirm the type, quality and quantity of OME relevant to the activity and how it is prepared for specified tasks including precautions taken to prevent damage (S9, S12). Applies the fundamentals of safe handling, movement and use of OME, including preparation for disposal or quarantine in line with regulatory requirements (K3, S4). Demonstrates the application of hazard divisions, hazard types, compatibility groups, mixing rules and fire divisions and explains how they take suitable precautions to prevent damage to equipment and facilities (S7). Conducts inspection, testing and audits using visual and sampling techniques and records outcomes in line with organisational or legislative requirements (S3, S14).	Explain the risks and potential impact to individuals and the business if equipment and resources are not fit for purpose or in-line with regulations and legislation and identify solutions to reduce risks to the organisation (S1) Demonstrates how they combine outcomes from an inspection and explains next steps on completion of the inspection and testing, justifying the choices they have made, making recommendations on what the organisation needs to do in order to meet all legislative requirements (S3). Mitigates risks and hazards and advises on what actions should be taken to ensure that the workplace is continuously safe and free from explosive hazards and explains how they ensure that regulations are followed (S2, K2).

Assessment method 2: Interview underpinned by a portfolio of evidence

KSBs	Fail	Pass	Distinction
K5 K6 K7 K8 K10 **S5 S8 S11 S13 S15** **B1 B2 B4 B5**	Does not meet the pass criteria	Discuss how they keep accurate records and provides details of improvements they have made and recommendations they have made to support the improvements (S5). Describe the processes for assessing serviceability of OME products or plant and what recommendations or solutions they have made, when these were damaged, to ensure that the workplace is safe and free from hazards (K8). Explain how they apply the basic concepts of engineering and material science, describing the range of resources, equipment and materials available. (K10) Explain the difference between coaching and mentoring and explain how they determine which approach is best suited to the situation including how they evaluated their own performance seeking peer review and reflection on the task undertaken (K5, S6, B2). Explain how their contribution to a team activity made a difference to project outcomes or the business and how they respected the contribution of others (B1, B5) Discuss how they continually develop, including keep abreast of technological advancements in the sector and how the National Occupational Standards (NOS) have applied within their limits of individual responsibility, knowing when to seek advice. (K6, K7, B4) Explain how they apply OME principles underpinning OME concepts and components for a given effect and can describe appropriate OME procedures in the workplace to meet stakeholder requirements (S8, S13). Describe how they have planned, prioritised and supervised their team's workload in response to developing events within the	Summarises risks to safety practices and identifies actions that can be taken to reduce risks, providing detailed evaluation of the actions ensuring they support improvements to organisation practice (K8, S5). Justify their choices when applying OME principles to achieve the required explosive effect for an application. (S13) Compare the range and choice of resources, equipment or materials used within a given application as selected by the independent assessor, highlighting pros and cons of each (K10) Describes how they continually evaluate their own and the team's workload and how they use this analysis to plan activities to respond to events and reduce negative impact on the organisation (S11). Evaluates OME principles underpinning OME concepts and components for a given effect and can select the component to meet stakeholder requirements (S8, S13).

		workplace, and what techniques they have used (S11, S15).	

Assessment method 3: Knowledge test

Multiple Choice Questions:

KSBs	Fail	Pass	Distinction
K4 K9 K11 K12 K15	Does not meet the pass criteria (apprentice has answered less than 20 questions correctly)	Apprenticeship has answered 20-31 questions correctly	Apprentice has answered 32 or more of the questions correctly

The following grade boundaries apply to the test:

Grade	Minimum score	Maximum score
Distinction	32	40
Pass	20	31
Fail	0	19

Overall EPA grading

All EPA methods must be passed for the EPA to be passed overall.

To achieve a pass, the apprentice must achieve a pass in both assessment methods by achieving all pass criteria.

To achieve a distinction, the apprentice must achieve a distinction in both assessment methods by achieving all pass criteria and all distinction criteria.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1 (Practical demonstration)	Assessment method 2 (Interview)	Assessment method 3 (Knowledge test)	Overall grading
Pass	Fail	Fail	Fail
Fail	Fail	Pass	Fail
Fail	Pass	Fail	Fail
Pass	Pass	Pass	Pass
Distinction	Pass	Pass	Pass
Pass	Distinction	Pass	Pass
Pass	Pass	Distinction	Pass
Distinction	Distinction	Pass	Pass
Pass	Distinction	Distinction	Pass
Distinction	Pass	Distinction	Pass
Distinction	Distinction	Distinction	Distinction

Re-sits and re-takes

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take. A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for the re-sit or a re-take. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit or re-take any failed assessment methods only. If the apprentice fails the practical demonstration, they will need to complete a new practical demonstration. If the apprentice fails the interview, they will not have to resubmit a new portfolio of evidence.

If they fail the knowledge test, they will need to retake a new knowledge test.

The timescales for a resit and retake are agreed between the employer and EPAO. A resit is typically taken within 1 months of the EPA outcome notification. The timescale for a retake is dependent on how much re-training is required and is typically taken within 4 months of the EPA outcome notification. All assessment methods must be taken within a 6 month period, otherwise the entire EPA will need to be resat/retaken.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to distinction.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

Roles and responsibilities

Role	Responsibility
Apprentice	• participate in development opportunities to improve their knowledge skills and behaviours as outlined in the standard • meet all gateway requirements when advised by the employer • understand the purpose and importance of EPA and undertake EPA
Employer	• support the apprentice to achieve the KSBs outlined in the standard to their best ability • determines when the apprentice is working at or above the level outlined in the standard and is ready for EPA • select the EPAO • confirm all EPA gateway requirements have been met • confirm arrangements with EPAO for the EPA (who, when, where) in a timely manner • ensure apprentice is well prepared for the EPA • should not be involved in the delivery of the EPA
EPAO	As a minimum EPAOs should: conform to the requirements of the apprenticeship provider and assessment register • understand the occupational role • appoint administrators, /invigilators and markers to administer, invigilate and mark the EPA • provide training and CPD to the independent assessors they employ to undertake the EPA • provide adequate information, advice and guidance documentation to enable apprentices, employers and providers to prepare for the EPA • deliver the end-point assessment outlined in this EPA plan in a timely manner • prepare and provide all required material and resources required for delivery of the EPA in-line with best practices • use appropriate assessment recording documentation to ensure a clear and auditable mechanism for providing assessment decision feedback to the apprentice • have no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest • maintain robust internal quality assurance (IQA) procedures and processes, and conducts these on a regular basis • conform to the requirements of the nominated external quality assurance body • organise standardisation events and activities in accordance with this plan's IQA section • organise and conduct moderation of independent assessors' marking in accordance with this plan • have, and operate, an appeals process • arrange for certification with the relevant training provider

Independent assessor	As a minimum an independent assessor should: • understand the standard and assessment plan • deliver the end-point assessment in-line with the EPA plan • comply to the IQA requirements of the EPAO • be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest • satisfy the criteria outlined in this EPA plan • hold or be working towards an independent assessor qualification e.g. A1 and have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading • have the capability to assess the apprentice at this level • attend the required number of EPAOs standardisation and training events per year (as defined in the IQA section) • arrange for a second person to support the practical demonstration, if required. • ensure the second person does not influence the apprentice's grade
Training provider	As a minimum the training provider should: • work with the employer to ensure that the apprentice is given the opportunities to develop the KSBs outlined in the standard and monitor their progress during the on-programme period • advise the employer, upon request, on the apprentice's readiness for EPA prior to the gateway • plays no part in the EPA itself
Second person for practical assessment	As a minimum, the second person will: • be occupationally competent and at the same level as the apprenticeship standard or higher • follow a brief provided by the independent assessor which confirms what is required • be at the assessment venue and be in situ prior to the assessment • be briefed prior to assessment by the independent assessor • adhere to confidentiality about all aspects of the assessment and the brief they have been provided with • act as a colleague for only those elements of the practical assessment which can only be completed in pairs and where it is normal practice to do so • not direct any activity and must take instruction from the apprentice • not ask questions that indicate how to complete the practical assessment successfully • not provide guidance or influence the assessment outcome in any way • have no direct connection or conflict of interest with the apprentice • provide a written statement to confirm that all of the task is attributable to the apprentice

Marker	As a minimum, the marker must: • attend induction training as directed by the EPAO • have no direct connection or conflict of interest with the apprentice, their employer or training provider mark test in line with the EPAO's mark scheme
Invigilator	As a minimum, the invigilator must: • attend induction training as directed by the EPAO • not invigilate an assessment, solely, if they have delivered the assessed content to the apprentice • invigilate and supervise the apprentice during assessment methods to prevent malpractice in line with the EPAOs invigilation procedures

Internal Quality Assurance (IQA)

Internal quality assurance refers to the requirements that EPA organisations must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. EPA organisations for this EPA must:

- appoint independent assessors who have knowledge of the following occupational areas:
  - OME engineering and material science, manufacture, disposal and testing, including all safety and environmental aspects within the Apprenticeship Standard
- appoint independent assessors who have recent relevant experience of the occupation and sector at least one level above the apprentice gained in the last three years or significant experience of the occupation and sector.
- appoint independent assessors who are members of relevant professional bodies.
- appoint independent assessors who are competent to deliver the end-point assessment
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- have robust quality assurance systems and procedures that support fair, reliable and consistent assessment across the organisation and over time
- operate induction training and standardisation events for independent assessors when they begin working for the EPAO on this standard and before they deliver an updated assessment method for the first time
- ensure independent assessors attend standardisation events on an ongoing basis and at least once per year

Affordability

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

- using an employer's premises
- using simulated explosives where required
- a suitable venue selected by the EPAO (e.g. a training provider's premises or another employer’s premises)
- Skype (or equivalent)
- On-line assessment (knowledge test)

Professional body recognition

This apprenticeship is designed to prepare successful apprentices to meet the requirements for registration as an Ordnance Munitions Explosives Technician with Institute of Explosives Engineers.

Mapping of knowledge, skills and behaviours (KSBs)

Assessment method 1: Practical demonstration with question and answer session

Knowledge
K1 To set up, conduct, shut down and supervise OME processes in accordance with relevant H&S, environmental and explosives regulations Such as, Explosives Regulation 2014 and JSP482.
K2 The health, safety and environmental and other statutory legislation, regulations and safe working practices and procedures governing OME, such as, Risk assessments, HAZID, hazard logs, hazard reviews, ALARP principles, safety cases and their implications for the area of work.
K3 The fundamentals of protective equipment and clothing, safe handling, movement and use of OME, encompassing hazard divisions, hazard types, compatibility groups, mixing rules and fire divisions.
K13 OME disposal processes, including associated environmental factors and regulation.
K14 The process for ensuring the workplace is safe and free from explosive hazards.

Skills
S1 Prepare and supervise an OME workplace, in line with organisational procedures selecting appropriate equipment and resources and return it to a serviceable condition having recorded and taken appropriate action to address any faults.
S2 Apply correct H&S and explosives regulations to task and confirm hazard and risk against agreed criteria.
S3 Conduct inspection and testing, using visual and sampling techniques, and record outcomes in line with organisational or legislative requirements.
S4 Make safe, quarantine, and/or prepare OME for disposal.
S7 Handle and use OME correctly in accordance with the relevant procedures, guidance and legislation.
S9 Confirm the type, quality and quantity of OME relevant to the activity in the workplace.
S10 Implement and maintain housekeeping standards such as cleanliness and waste disposal using best practice protocols.
S12 Prepare Ordnance Munitions and Explosives for specified tasks, taking suitable precautions to prevent damage to equipment and facilities.
S14 Undertake inventory activities such as audits, recording outcomes in line with organisational requirements.

Behaviours
B3 Work safely at all times prioritising Health and Safety best practice.

Assessment method 2: Interview underpinned by a portfolio of evidence

Knowledge
K5 The principles and differences of coaching and mentoring including how to conduct the chosen option.
K6 The principles of Continuing Professional Development (CPD) and how the National Occupational Standards (NOS) can determine required CPD interventions.
K7 The limits of individual responsibility and knowledge as well as that of the team and where to seek advice when required.
K8 The processes for assessing, analysing and interpreting technical information to determine the serviceability of the OME products or plant such as: recognising signs of damage and deterioration and propose solutions in order for safe actions to be taken.
K10 The range and choice of resources, equipment and materials used within OME processes and their application and constraints.

Skills
S5 Maintain accurate record keeping and identifying areas for improvement and making recommendations.
S6 Use a range of techniques to coach, mentor and communicate within their area of OME responsibility.
S8 Identify and implement appropriate OME procedures in the workplace to meet stakeholder requirements.
S11 Plan and prioritise their own and the team's workload in response to developing events within the workplace.
S13 Apply the principles of OME to achieve the required explosive effect for a specific ordnance munition or explosive application.
S15 Use a range of techniques to supervise OME activities, within their area of responsibility.

Behaviours
B1 Work collaboratively as a team member.
B2 Evaluate outcomes of own performance across all duties including reflection and seeking peer review.
B4 Continual development - willingness to learn through continual development including new processes methods and technologies.
B5 Personal values - respect and tolerance with others.

Assessment method 3: Knowledge Test

Knowledge
K4 The basic concepts and theory of OME engineering/material science, including the chemical properties of explosives, abnormal stimulus, compatibility testing, hazard testing, risk assessment and engineering controls.
K9 The principles underpinning OME concepts and components for a given explosive effect including knowledge of initiators, initiation systems, explosive trains, explosive substances and articles.
K11 The principles of explosives classification, OME inventory activities and licensing requirements, conditions and restrictions.
K12 The principles related to the safe preparation of ordnance munitions and explosives for specified tasks.
K15 The requirements of a Quality Management System and the key activities required by this (such as inspection and QA regimes) throughout the OME lifecycle.