End-Point Assessment Plan
Level 2 Maritime Mechanical and Electrical Mechanic

Table of Contents

The End-Point Assessment (EPA) Overview:

This End-Point Assessment is aimed at Apprentice Maritime Mechanical and Electrical Mechanics, who typically work in either the Royal Navy as a Marine Engineer or Weapons Engineer, or the Royal Fleet Auxiliary or Merchant Navy as a Motorman.

The responsibility for developing and delivering the EPA rests with the End-Point Assessment Organisation (EPAO) that are approved to offer their services to employers for the Maritime Mechanical and Electrical Mechanic apprenticeship standard. Only EPAO that appear on the Education & Skills Funding Agency's register of end-point assessment organisations: https://www.gov.uk/government/collections/register-of-apprentice-assessment-organisations can be used. EPAO's must appoint appropriately qualified and experienced assessors to conduct the EPA as defined in this plan.

The EPA will be completed after a minimum of 12 months training has taken place and at a time that accommodates work scheduling and cost effective planning of resources, the end-point assessment must commence within 3 months of confirmation that the apprentice has met gateway requirements. The EPA must be completed over a maximum total assessment time of 3 months.

The EPA consists of 2 assessment methods:-

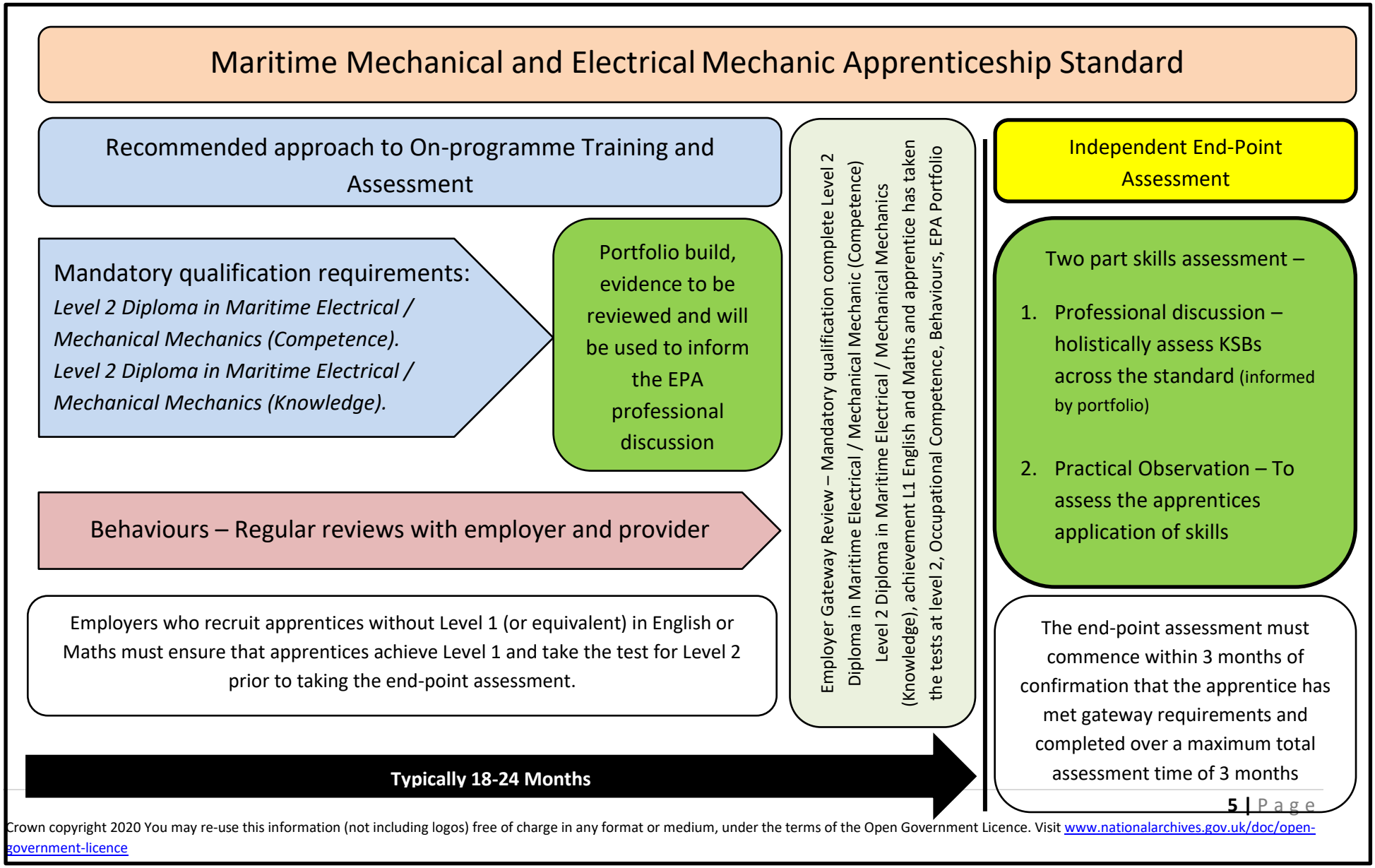
- Professional discussion – to holistically assess KSBs across the standard and will be informed by portfolio
- Practical observation – to assess the apprentice's application of skills within the apprentice's place of work or in a suitable environment away from the workplace (e.g. In a centre approved by the EPAO)

The EPA satisfies the requirements for the Maritime Mechanical and Electrical Mechanic standard. The practical observation will be carried out by an independent assessor, approved by the EPAO and where possible will take place within the apprentice's workplace, assessing the application of the apprentice's skills in line with the job role requirements. The portfolio will be reviewed by an independent assessor, approved by the EPAO and will be used to inform the professional discussion. The professional discussion may be carried out by a review panel consisting of 2 members (an independent assessor appointed by the EPAO and an employer technical expert, as requested by the EPAO). The independent assessor appointed by the EPAO will make the final decision on professional discussion. The performance of the apprentice within the EPA will

determine the apprenticeship grade of fail, pass, or distinction. The employer technical expert cannot influence the grading decision. On completion of the professional discussion, the apprentice will be awarded a grade of Pass, Distinction or Fail.

The final apprenticeship EPA decision will be made by the EPAO; successful achievement of the EPA will lead to formal certification of the apprenticeship and demonstrate that the apprentice is a competent Maritime Mechanical and Electrical Mechanic.

Diagrammatic representation of the assessment requirements:



On-programme Assessment

The employer and training provider will use the mandatory Level 2 Diploma in Maritime Electrical / Mechanical Mechanics (Competence) and Level 2 Diploma in Maritime Electrical / Mechanical Mechanics (Knowledge) within the Maritime Mechanical and Electrical Mechanic Standard to develop a training plan to ensure that the apprentice receives the appropriate level of knowledge and skills to advance to and successfully complete the Independent End-Point Assessment.

Employer Gateway Review for Progression to Independent End-Point Assessment

Readiness for End-Point Assessment (EPA)

Before going forward for the EPA, the employer must be satisfied that the apprentice has:

- Satisfactorily completed training covering the skills, knowledge and behaviours as described in the standard
- Achieved all Mandatory qualifications – Level 2 Diploma in Maritime Electrical / Mechanical Mechanics (Competence) and Level 2 Diploma in Maritime Electrical / Mechanical Mechanics (Knowledge)
- English and mathematics at level 2 or Apprentices without English and mathematics at level 2 must have achieved level 1 English and mathematics and have taken the tests for level 2. For those with an education, health and care plan or a legacy statement the apprenticeships English and Maths minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.
- Sufficient evidence in the form of a portfolio to allow the apprentice to consistently demonstrate knowledge, skills and behaviours as described in the standard. Guidance on what should be included in the portfolio can be found within the professional discussion section

Who decides if the apprentice is ready for EPA?

Once the apprentice has successfully completed appropriate on-programme training and assessment the judgement on whether the apprentice is occupationally competent and ready for the EPA will be made by their employer, on the basis of the knowledge, skills and behaviours attained by the apprentice and taking into consideration the apprentices' work experience, the views from the training provider where applicable and the apprentice, to inform this decision.

When satisfied that the apprentice is ready for EPA, the employer will directly (or via their lead provider) inform their selected EPAO for the EPA requirements to be planned and carried out.

End-Point Assessment

End-point assessment must be undertaken by an Independent End-Point Assessment Organisation that is on the Education & Skills Funding Agency's Register of End-Point Assessment Organisations.

Successful achievement of the end-point assessment will lead to final certification of the apprenticeship and demonstrate that the apprentice is a fully competent Maritime Mechanical and Electrical Mechanic.

The assessment methods can be completed in any particular order, allowing EPAOs flexibility in scheduling and cost-effective allocation of resources.

Assessment method 1 - Professional discussion:
The purpose of the professional discussion is to enable the apprentice to showcase to the panel how they have carried out the role of a Maritime Mechanical and Electrical, integrating the knowledge, skills and behaviours expected and for the review panel to be assured the apprentice has achieved the requirements of the Standard. To help ensure that the professional discussion is practicable and cost effective, it can be carried out at the employer's site, an assessment centre approved by the EPAO or via video link as appropriate. The EPAO is to ensure sufficient equipment and security arrangements (measures to prevent misrepresentation) are in place where video links are the preferred method of delivery, e.g. 360-degree camera function with assessors when the assessments are undertaken remotely.

The professional discussion will consist of:

- The independent end-point assessor, using set criteria, must ask the apprentice 6 open questions developed by the EPAO; where needed follow up questions are allowed to seek clarification. The professional discussion must be completed during a 60-minute period

+/- 5 minutes. Questions must seek to assess KSBs and can be informed by information within the portfolio, assessing performance against the pass and distinction criteria and enable the independent end-point assessor to explore areas that warrant further investigation in order to ascertain if the apprentice has the competence to work as a Maritime Mechanical and Electrical Mechanic. The apprentice may refer to their portfolio during the professional discussion if required. The EPAO will be required to produce sample questions or a question template as a guide for independent assessors. However, independent assessors should develop additional questions pertinent to the evidence presented in the portfolio. The bank of sample questions must be of sufficient size to prevent predictability and be reviewed regularly (and at least once a year) to ensure they are fit for purpose and allow a different set of questions to be used in the case of re-sits/re-takes.

The purpose of the professional discussion is to:

- Demonstrate the apprentice can apply the broad range of knowledge, skills and behaviours in the Standard, as indicated in Annex 1
- Clarify any questions the independent assessor has from their review of the portfolio submitted
- Explore aspects of the apprentice's work, including how it was carried out, in more detail

The panel may consist of 2 members; an employer technical expert (as requested by the EPAO) and the independent assessor (acting as Chair) appointed by the EPAO. The employer technical expert must be occupationally competent. The employer technical expert will be sourced by the apprentice's own employer and will provide technical support, advice and guidance such as confirming company policies, procedures, processes, providing context on technical information or on emerging technologies. Any information provided by the employer technical expert must only be at the request of the end-point assessor who has the final say over the assessment and grade awarded. The employer technical expert must not provide evidence on behalf of the apprentice.

The independent assessor will review the portfolio and decide how the professional discussion will be conducted and prepare relevant key questions to ask the apprentice to confirm the broad range of knowledge, skills and behaviours have been achieved. At the end of the

professional discussion, the independent assessor (acting as Chair) will make the final judgement on Distinction, Pass, or Fail for this assessment method.

The professional discussion will be graded either fail, Pass or distinction, to achieve a pass for the professional discussion the apprentice must achieve all of the pass criteria that is laid out in the grading matrix which can be can be found in Annex 2, to achieve a distinction the apprentices must achieve all of the pass criteria and the distinction criteria that is laid out in the grading matrix which can be can be found in Annex 2.

Portfolio requirements:

At the Gateway, the Apprentice must have completed a portfolio setting out examples of work they have undertaken. The portfolio will be used to inform the professional discussion through which the apprentice will demonstrate competence of the broad range of knowledge, skills and behaviours set out in the standard. The portfolio will be in the form of a Training Record Book (TRB) for the Merchant Navy and a Career Development Journal (CDJ) for the Royal Navy. The Employer will be required to confirm that the portfolio provides an accurate representation of work carried out by the apprentice and is not embellished. The portfolio will not be graded as part of the EPA but will be used to ascertain the level of explanation given during the graded professional discussion.

The EPAO will make the portfolio available for review by an independent assessor at least 2 weeks prior to the professional discussion. The portfolio should include samples of work carried out by the apprentice. This should include demonstration of work carried out over a period of time and must include evidence of work carried out within the last three months of the on-programme period, and will include a minimum of 2 and no more than 3 activities carried out by the apprentice that demonstrates the higher order knowledge, skills and behaviours of the standard. Where practicable this should include photographs, images, diagrams, together with on the job observations and witness evidence/testimony. This should also include situations that have been difficult or challenging, and how these have been overcome e.g. equipment breakdown which has resulted in a change in working practice while still adhering to company procedures. Any employer contributions must focus on direct observation of evidence (e.g. reviews/witness statements) of competence rather than opinions. The portfolio cannot include any methods of self-assessment or self-appraisal.

Assessment Method 2 - Practical Observation:

The Practical Observation will be carried out at the apprentice's place of work or an in-centre practical assessment in a suitable area away from the work place where it is not feasible to use the employer's premises and will be carried out by an independent assessor, approved by the EPAO. During the process the apprentice will be expected to demonstrate to the assessor the application of the knowledge, skills and behaviours of specific job related knowledge and skills as outlined in Annex 1. Apprentices will be observed and assessed against KSBs as identified within the standard. Typically this will be covered within one task but may be covered over two separate tasks if required. During the observation the independent assessor may ask between 5 open questions to assess the related underpinning knowledge. They may ask follow up questions during the observation where clarification is required. Questioning must be completed within the total time allowed for the observation.

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

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

Observations must be carried out over an assessment time period of 120 minutes +/- 10 minutes. There may be breaks during the observation to allow the apprentice to move from one location to another.

Observations must be conducted in a realistic work situation under normal conditions. It is anticipated that assessment organisations will use the apprentice's normal work environment to carry out the observation but if this is not possible a suitable alternative area can be used. The EPAO is responsible for ensuring that the test environment is representative of the apprentice's workplace and can facilitate EPA.

Independent assessors may observe up to a maximum of 3 apprentices at any one time, to allow for cost effective use of resources while maintaining quality and rigour.

The EPAO will be required to supply an observation specification sheet for each of the job roles being assessed and a scorecard which will be used by the independent assessor to identify and record the elements of the Standard and grade for the practical observation and give examples of open question types, the observation sheets and scorecards must be reviewed regularly (at least once a year) to ensure they reduce predictability and remain fit for purpose. The practical skills observation will be graded either Pass or fail, to achieve a pass for the

practical skills observation the apprentice must achieve all of the pass criteria that is laid out in the grading matrix which can be can be found in Annex 2.

Practical Tasks may include, but are not limited to the following:

- General Maintenance tasks
- General Servicing tasks
- General fault finding tasks
- General Overhauling tasks

EPA – Summary of roles and responsibilities

	Role responsibilities
Employer	• Determines when the apprentice is working at or above the level outlined in the standard and is ready for EPA • Selects EPAO (may be advised by training provider) • Confirms all EPA gateway requirements have been met, signs off to this effect and triggers EPA to the EPAO • Confirms arrangements with EPAO for the EPA (who, when, where) • Ensures apprentice is aware of the EPA, is prepared and ready, and ensures attendance • Selects an appropriately qualified employee or suitable representative to attend the discussion to ensure accuracy and veracity of the apprentice's statements and to clarify any issues where requested by the independent assessor
Independent Assessment Organisation	• Write and provide all required material and resources required for the EPA (i.e. practical observation questions and instruction script, professional discussion guidance, assessment recording documentation) • On receipt of 'trigger' from employer/training provider, contact the employer and arrange dates, times and locations for the required EPA • Ensure all required material is present at the EPA venue • Provide appropriate and qualified staff to enable completion of all aspects of the EPA • Confirms result of EPA to apprentice and employer

	• Arranges for certification with the relevant training provider • Maintain robust internal quality assurance (IQA) procedures and moderation • Conform to the requirements of the nominated external quality assurance body

Failure/Re-sit & Re-take information

Apprentices who fail one or more EPA method will be offered the opportunity to take a re-sit/retake. Re-sits/re-takes must not be offered to apprentices wishing to move from pass to distinction. A re-sit does not require further learning, whereas a re-take does.

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

The timescales for a resit/retake is agreed between the employer and EPAO. A resit is typically taken within 1 month of the EPA outcome notification. The timescale for a retake is dependent on how much re-training is required and is typically taken within 3 months of the EPA outcome notification. The maximum grade awarded to a re-sit/re-take for both the practical observation and professional discussion will be pass, unless the EPAO identifies exceptional circumstances accounting for the original fail.

EPAOs must ensure that apprentices are observed doing different activities within the practical skills observation when taking a re-sit/re-take.

If the apprentice is unsuccessful, their employer will decide when the apprentice should re-apply for the EPA once additional training has taken place.

End-point assessment grading

The professional discussion and practical observation are equally weighted and will be individually graded – the professional discussion will be graded fail, pass or distinction and the Practical observation will be graded fail or pass. Fail in one or more of the assessment methods will result in an overall fail in the EPA. Evidence from the portfolio will be used to inform the professional discussion and will not be assessed.

Grading Criteria

The apprenticeship will be graded Fail, Pass, or Distinction. The final grade will be determined by collective performance in the two assessments within the end-point assessment.

The EPAO will combine the grades from the professional discussion and practical observation to determine the overall apprenticeship grade in line with the grading criteria below.

EPA method	Assessment Grade	Assessment Grade	Assessment Grade	Assessment Grade
Practical observation	Any*	Fail	Pass	Pass
Professional discussion	Fail	Any**	Pass	Distinction
Apprenticeship Grade Awarded	**Fail**	**Fail**	**Pass**	**Distinction**

Any* = Fail or Pass

Any **= Fail, Pass or Distinction

Independence

The EPAO will coordinate the entire EPA process completely and independently of the employer and any training providers. The independent assessor appointed to carry out the EPA will not be from the apprentice's employer or related to the apprentice in any other way.

Regional arrangements will ensure that all apprentices are within reasonable travelling distance of the venue for the professional discussion. Where practicable the professional discussion will be arranged at the employers or their providers' premises, or via video link as appropriate to minimise additional expenditure, travel and time away from the work place.

Requirements for Independent Assessors

The independent assessor must be qualified to a minimum of level 3 within this engineering discipline, i.e. Electrical/ Mechanical engineering and have up to date knowledge and understanding of the Engineering sector and be qualified in assessment practice.

Internal Quality assurance

The EPAO for the Maritime Mechanical and Electrical Mechanic Apprenticeship EPA will be responsible for the internal quality assurance and will have suitable and appropriate quality assurance processes in place so that all aspects of the EPA are carried out in a consistent and fair manner for all Apprentices. The minimum requirements for IQA will include:

- Third parties - the management of third parties, including independent review panel members, examiners, assessors
- Information about fees, clarity of invoicing
- Setting and delivering assessment - need for confidentiality, reasonable adjustments and special consideration
- Grading and issuing results - grading and moderation, results determination and issuing
- Standardisation/moderation meetings to support and develop independent assessors; monitor and improve the quality of assessment practice; and remove / minimise process inconsistencies. The frequency and timing of internal standardisation and moderation activity is decided by the EPAO but must be undertaken at least once a year.

The EPAO will set the assessment against the grading criteria for the professional discussion and practical skills observation.

Independent Assessors selected by the EPAO must have recent (within 12 months) and in-depth knowledge and understanding of the Engineering sector, specifically the electrical/ mechanical specialisms. They must also have undertaken recognised training in an appropriate assessment methodology for grading, interviewing or assessment of competence, i.e. NVQ assessor or equivalent.

- Independent Assessors selected as professional discussion interviewers will receive guidance and training from the EPAO with regards to professional discussion techniques
- Independent Assessors selected to carry out the practical skill observation will receive guidance and training from the EPAO with regards to observation techniques

All EPAOs must be on the Education & Skills Funding Agency's Register of End-Point Assessment Organisations.

End-Point Assessment Organisation must:

- Provide end-point assessment guidance, where required and appropriate, to apprentices, employers and training providers in relation to the requirements of the practical skills observation, professional discussion, portfolio and grading of the end-point components
- Provide immediate guidance where end-point assessments need to be halted due to unforeseen circumstances e.g. system emergency, apprentice illness, so it is clear that an apprentice's grade will not be capped at a pass if they have to re-take or re-sit the end-point assessment for reasons beyond their control
- Ensure independent assessors make consistent and reliable assessment and grade judgements through moderation activity involving observations and examination of assessment records on a risk sampling basis, i.e. a minimum of 20% for experienced assessors and 100% for new assessors or where inconsistencies have been identified
- Facilitate reasonable adjustments when for learners with special requirements to assess the knowledge, skills and competence of the apprentice through alternative assessment techniques. Whilst, these will remove barriers to participation, they must be designed to ensure the validity, integrity and assessment judgements are not compromised to health and safety and legal requirements

- Appoint and approve independent assessors for the purposes of conducting the portfolio review and professional discussion and grading, based on a check of knowledge, experience and independence
- Provide training for independent assessors in terms of the requirements of the operation and grading of the assessment tools and grading
- Provide training for independent assessors in undertaking fair and impartial assessment and making judgements about performance and the application of knowledge and behaviours within a workplace setting
- Provide documentation and guidance in relation to the end-point assessment i.e. making reasonable adjustment, eligibility to enter end-point assessment and conflict of interest
- Hold annual standardisation/moderation events for independent assessors to ensure consistent application of the guidance
- Ensure EPAO moderators are trained in assessment and assurance processes and undertake regular continuing professional development
- Develop and manage a complaints and appeals procedure.
- Coordinate the independent assessors across the regions and ensure their independence.

External Quality Assurance

External quality assurance for this apprenticeship standard will be managed by the IFA.

Implementation

Affordability

It is the responsibility of the employer to negotiate a 'best price' through negotiation, including potential reductions where multiple candidates require EPA. Flexibility in the scheduling of assessments and the ability to use technology should enable EPAOs to minimise costs and deliver the EPA in the volumes required.

The following factors should ensure the EPA is affordable:

- Employers premises should be used for EPA venues where possible
- Remote assessment is permissible, reducing travel costs

The cost for end-point assessment includes the following:

- Occupational competence validation – Portfolio review
- Practical skills observation – Skills, knowledge and Behaviours
- Professional discussion – Skills, knowledge and Behaviours
- Apprenticeship final sign off
- Apprenticeship Certificate

Volumes: It is anticipated that there will be initially 750 starts per annum on this apprenticeship but it is expected that this number will grow within the first three years of delivery.

Independent End-Point EPAOs who want to carry out the End-Point Assessment within this standard must ensure they have sufficient capacity to meet the projected number of apprentices requiring End-Point Assessment including when, during the calendar year that the assessment is likely to be required.

Annexes

Annex 1

Assessment Method by element of the Standard – Maritime Mechanical and Electrical Mechanic

	Apprenticeship Standard competencies	Designated method of assessment	
Ref	**Skills to be assessed**	**O = Practical Observation**	**D = Professional discussion (informed by portfolio))**
S1	Comply with quality, safety, health and environmental regulations.	**O**	**D**
S2	Read, analyse and interpret engineering data, drawings and documentation used in the operation and maintenance procedures.	**O**	
S3	Use hand and power tools to measure, mark out, cut, drill, shape and finish components to the required engineering tolerances.	**O**	
S4	Assembly, removal, maintenance and overhaul components, equipment and systems.	**O**	
S5	Apply assembly and installation methods and techniques (such as mechanical fasteners, terminations, connectors, seals, gaskets, and jointing materials).	**O**	
S6	Undertake testing, inspection and diagnostic activities on components, equipment and systems, making adjustments where applicable.	**O**	**D**
S7	Comply with correct entry procedures and precautions for confined spaces.	**O**	**D**

Ref	Knowledge to be assessed	O = Practical Skills Observation	D = Professional discussion (informed by portfolio))
K1	Mathematical techniques, formula and calculation appropriate to their role.		**D**
K2	Electrical, mechanical, pneumatic and fluid power engineering technology and principles.		**D**
K3	The basic operation and maintenance of mechanical and electrical equipment and systems used on board vessels.	**O**	**D**
K4	Correct selection and use of electrical and mechanical hand tools and test equipment.		**D**
K5	Quality, safety, health and environment regulations.	**O**	**D**
K6	Entry procedures and precautions for confined spaces.		**D**
K7	Basic knowledge of material, fluid and lubricants utilised in the maintenance of equipment.		**D**

	Behaviours to be assessed	O = Practical Skills Observation	D = Professional discussion (informed by portfolio))
B1	**Health, Safety and Environment:** follow safe working practices, committed to their own and their colleagues wellbeing/fatigue at work and the precautions to prevent pollution of the marine and wider environment.	**O**	**D**
B2	**Strong work ethic:** motivated; proactive; committed.		**D**
B3	**Dependability and responsibility:** punctual; reliable at all times especially for watch keeping and other duties.		**D**

B4	**Positive attitude:** constructive thinking; optimism; motivated to succeed.		**D**
B5	**Team player:** able to work and interact effectively within a team and committed to equality, diversity and respect for other cultures.		**D**
B6	**Effective communication:** spoken; listening; body language; presentation; written.		**D**
B7	**Adaptability:** able to adjust to change including the use of shared facilities.		**D**
B8	**Honesty and integrity:** truthful; sincere and ethical.		**D**
B9	**Self-motivation:** self-starter; able to make independent decisions & lead own career development.		**D**
B10	**Personal commitment:** prepared to make a personal commitment and comply to the company rules and procedures.		**D**

Annex 2

Professional discussion Grading Criteria Guidance for the assessment of Knowledge, Skills and Behaviours

Skills to be assessed	**Fail Criteria** Apprentice does not demonstrate the required knowledge for occupational competence	**Pass Criteria** To achieve a pass the apprentice must achieve all of the skills pass criteria as laid out below	**Distinction Criteria** To achieve a distinction the apprentices must achieve all of the pass criteria and all of the distinction criteria as laid out below
S1. Comply with quality, safety, health and environmental regulations**.** **S7** Comply with correct entry procedures and precautions for confined spaces.	Insufficient evidence of demonstrating they have the ability to work safely in an engineering environment and could potentially put self, colleagues, the environment or public at risk by their actions. Evidence including: • Failure to identify and deal appropriately with any risks, hazards, hazardous situations and problems • Failure to use relevant PPE • Failure to identify and select the appropriate tools, equipment and materials • Fails to identify problems within the engineering environment	Demonstrates their ability to work safely in an engineering environment to approved procedures and agreed quality. Evidence including: • Identifies, assesses and controls risks within work environment • Understands and can identify the correct entry procedures and precautions for entering confined spaces • Completes documentation accurately, efficiently and legibly using the correct terminology • Plans and prepares prior to starting entering confined spaces	Demonstrates they have the ability to take on additional safety responsibilities, over and above the expectation of an engineering environment. Evidence including: • Challenges other people on H&S compliance, where appropriate • Assesses/controls risk at all times regardless of environment • Suggests ideas for improvement along with possible solutions
S6 Undertake testing, inspection and diagnostic activities on components, equipment and systems, making adjustments where applicable.	Insufficient evidence of demonstrating they can follow relevant work instructions and applying correct procedures. Evidence including: • Failure to carry out fault location and does not use suitable diagnostic techniques	Demonstrates their ability carry out maintenance activities in line with work instructions. Evidence including: • Provides evidence of having followed the correct work instructions as part of their work commitments and shows an understanding of any operating rules in place within the instruction • Carries out fault location using suitable diagnostic techniques • Carries out sufficient tests on the maintained equipment • Carries out correct completion activities and restores equipment to a serviceable condition	Demonstrates they can identify opportunities to improve processes or procedures along with potential solutions.

	• Failure to carry out sufficient tests on the maintained equipment • Failure to follow completion activities and fails to restore equipment to a serviceable condition	• Makes adjustments as a result of testing, inspection and diagnosis results	

Knowledge to be assessed	**Fail Criteria** Apprentice does not demonstrate the required skills for occupational competence	**Pass Criteria** To achieve a pass the apprentice must achieve all of the knowledge pass criteria as laid out below	**Distinction Criteria** To achieve a distinction the apprentices achieve all of the pass criteria and all of the distinction criteria as laid out below
K1 Mathematical techniques, formula and calculation appropriate to their role	Insufficient knowledge mathematical techniques, formula and calculation techniques. Evidence including: • Cannot outline the mathematical techniques, formula and calculation operational practices, processes and procedures	Demonstrates their understanding of mathematical techniques, formula and calculation techniques. Evidence including: • Outlines the specific mathematical techniques, formula and calculation, processes and procedures relevant to their work activities	N/A
K2 Electrical, mechanical, pneumatic and fluid power engineering technology and principles **K7** Basic knowledge of material, fluid and lubricants utilised in the maintenance of equipment	Insufficient knowledge of mechanical, pneumatic and fluid power engineering technology and principles. Evidence including: • Cannot describe mechanical, pneumatic and fluid power engineering technology operation in sufficient detail • Cannot describe the material, fluid and lubricants utilised in the maintenance of equipment they have used	Demonstrates their understanding of maintenance operations. Evidence including: • Use of technical language and detail covering the key elements of the knowledge relating to the of mechanical, pneumatic and fluid power engineering technology and principles • Describes the mechanical, pneumatic and fluid power engineering technology operation • Describes the material, fluid and lubricants utilised in the maintenance of equipment they used and the reason for using them	Use of technical language and detail to give an in-depth explanation of the key elements of the knowledge relating to the maintenance activities they have been involved in. In-depth explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail e.g. processes, equipment, materials used and the reason behind their use.

K3 The basic operation and maintenance of mechanical and electrical equipment and systems used on board vessels **K4** Correct selection and use of electrical and mechanical hand tools and test equipment	Insufficient knowledge of mechanical manufacturing operations and electrical engineering operations. Evidence including: • Cannot describe the equipment operating parameters • Cannot describe the electrical assembly and testing techniques they have used	Demonstrates their understanding of mechanical manufacturing operations and electrical engineering operations. Evidence including: • Use of technical language and detail covering the key elements of the knowledge relating to the electrical engineering activities they have been involved in including their choice of tools and equipment • Describes the electrical assembly and testing techniques they have used	Use of technical language and detail to give an in-depth explanation of the key elements of the knowledge relating to the electrical engineering activities they have been involved in. In-depth explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail e.g. processes, equipment, materials used and the reason behind their use.
K5 Quality, safety, health and environment regulations **K6** Entry procedures and precautions for confined spaces	Insufficient knowledge of the statutory, quality, environmental compliance procedures, systems, organisational and health and safety regulations. Evidence including: • Cannot outline the specific statutory, quality, environmental compliance procedures/systems, organisational and health and safety regulations	Demonstrates their understanding of statutory, quality, environmental compliance procedures, systems, organisational and health and safety regulations. Evidence including: • Outlines the specific statutory, quality, environmental compliance procedures/systems, organisational and health and safety regulations relevant to their work activities	N/A

Behaviours to be assessed	Fail Criteria Apprentice does not demonstrate the required behaviours for occupational competence	Pass Criteria To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below	Distinction Criteria To achieve a distinction the apprentices must achieve all of the pass criteria and all of the distinction criteria as laid out below
B1 Health, Safety and Environment: Follow safe working practices, committed to their own and their colleagues wellbeing/fatigue at work and the precautions to prevent pollution of the marine and wider environment	Does not comply with health and safety guidance and procedures.	Demonstrate they comply with H&S guidance & procedures. Evidence including: • Demonstrates understanding & importance of H&S requirements • Assesses/controls risks in current environment • Can be trusted to work on own when appropriate, knowing who & where to seek help from if needed	• Challenges others on H&S compliance. • Proactively assesses/controls risk without the need to be prompted. • Sets an example to others by always working hard even when on own. • Reflects on how to do things more effectively.
B5 Team player: Able to work and interact effectively within a team and committed to equality, diversity and respect for other cultures	Does not work well within a team.	Demonstrate they can work well within a team and treat others with respect. Evidence including: • Integrates within a team • Helps and supports when asked • Considers impact of own actions on other people or activities • Contributes positively to team deliverables	• Proactively & regularly supports others. • Seeks support & advice and will share learning. • Provides encouragement as appropriate to keep the team on track.
B6 Effective communication: spoken; listening; body language; presentation; written	Does not communicate in an efficient and effective way.	Demonstrate they can communicate in an efficient and effective way. Evidence including: • Communicates open and honestly • Communicates clearly using appropriate methods • Pays attention & asks relevant questions to clarify understanding • Has a positive and respectful attitude	• Proactively shares information, openly & honestly. • Checks understanding of others by asking open questions. • Uses communication across a range of methods (spoken; listening; body language; presentation; written).
B3 Dependability and responsibility: Punctual; reliable at all times especially for watch keeping and other duties **B8 Honesty and integrity:** Truthful; sincere and ethical	Is not punctual and reliable. Does not display honesty and integrity. Is not prepared to make a personal commitment to comply with company rules and procedures.	Demonstrate they are reliable, sincere and committed. Evidence including: • Testimony from the employer that the learner has demonstrated all 3 behaviours using on-the-job observations as evidence • Manages own time & workload	• Encourages and educates others on the importance of all 3 behaviours (B3, B8 and B10).

B10 Personal commitment: prepared to make a personal commitment and comply to the company rules and procedures			
B2 Strong work ethic: motivated; proactive; committed **B4 Positive attitude:** constructive thinking; optimism; motivated to succeed **B7 Adaptability:** Able to adjust to change including the use of shared facilities **B9 Self-motivation:** Self-starter; able to make independent decisions & lead own career development	Does not show motivation and commitment. Is unable to adjust to change effectively. Does not appear self-motivated. Is unable to make independent decisions.	Demonstrate they are motivated, proactive and committed to the task at hand and are motivated to succeed. Evidence including: • Responds to questioning in a positive, proactive and motivated manner • Communicates clearly and demonstrates a logical and constructive manner to problem solving • Has a positive and respectful attitude • Works efficiently and effectively while adhering to appropriate job instructions • Stays motivated & committed, when facing small challenges • Shows a desire to succeed • Adjusts to change • Makes independent decisions • Actively leads own career path	• Suggest ways in which processes and problems can be overcome. • Demonstrates a willingness to improve the organisation. • Makes recommendations to improve the working environment/ work process.

Practical Observation Grading Criteria Guidance for the assessment of Knowledge, Skills and Behaviours

Skills to be assessed	Fail Criteria Apprentice does not demonstrate the required skills for occupational competence	Pass Criteria To achieve a pass the apprentice must achieve all of the skills pass criteria as laid out below
S1. Comply with quality, safety, health and environmental regulations**.** **S7.** Comply with correct entry procedures and precautions for confined spaces.	Insufficient evidence of demonstrating they have the ability to work safely in an engineering environment and could potentially put self, colleagues, the environment or public at risk by their actions. Evidence including: • Failure to identify and deal appropriately with any risks, hazards, hazardous situations and problems • Failure to use relevant PPE • Failure to identify and select the appropriate tools, equipment and materials • Fails to identify problems within the engineering environment	Demonstrates their ability to work safely in an engineering environment to approved procedures and agreed quality. Evidence including: • Control health and safety risks within the work environment including in confined spaces • Can deal with problems that occur within the engineering environment safely • Describes why policies and procedures are required. • Can describe the specific safe working practices, maintenance procedures and environmental regulations that need to be observed when questioned
S5 Assembly, removal, maintenance and overhaul components, equipment and systems. **S2** Read, analyse and interpret engineering data, drawings and documentation used in the operation and maintenance procedures. **S3** Use hand and power tools to measure, mark out, cut, drill, shape and finish components to the required engineering tolerances. **S4** Apply assembly and installation methods and techniques (such as mechanical fasteners, terminations, connectors, seals, gaskets, and jointing materials).	Insufficient evidence of demonstrating they can follow relevant work instructions and applying correct procedures. Evidence including: • Failure to carry out fault location and does not use suitable diagnostic techniques • Failure to carry out sufficient tests on the maintained equipment • Failure to follow completion activities and fails to restore equipment to a serviceable condition • Failure to understand and cannot describe the impact of their actions on plant, equipment and others.	Demonstrates their ability carry out maintenance activities in line with work instructions. Evidence including: • Follows the correct work instructions as part of their work commitments, using a range of tools and equipment and shows an understanding of any operating rules in place within the instruction • Carries out fault location using suitable diagnostic techniques • Carries out sufficient tests on the maintained equipment • Carries out correct completion activities and restores equipment to a serviceable condition using engineering data, drawings and documentation to support • Understands and can describe the impact of their actions on plant, equipment and others. • Demonstrates compliance with all company health, safety and environmental processes and policies as well as regulatory requirements • Can select and use appropriate tools, equipment and materials to carry out the engineering operations

S6 Undertake testing, inspection and diagnostic activities on components, equipment and systems, making adjustments where applicable.		
Knowledge to be assessed	**Fail Criteria** Apprentice does not demonstrate the required knowledge for occupational competence	**Pass Criteria** To achieve a pass the apprentice must achieve all of the knowledge pass criteria as laid out below
K3 The basic operation and maintenance of mechanical and electrical equipment and systems used on board vessels	Insufficient knowledge of maintenance operations. Evidence including: • Cannot describe the basic operation and maintenance of mechanical and electrical equipment and systems used on board vessels in sufficient detail when questioned • Cannot describe the specific safe working practices, maintenance procedures and environmental regulations that need to be observed when questioned	Demonstrates their understanding of maintenance operations. Evidence including: • Can use of technical language and detail covering the key elements of the knowledge relating to the maintenance activities they have been involved in when questioned • Can describe the planning carried out prior to the start of the maintenance operation when questioned
K5 Quality, safety, health and environment regulations	Insufficient knowledge of Quality, safety, health and environment regulations. Evidence including: • Cannot describe the Quality, safety, health and environment regulations	Demonstrates their understanding Quality, safety, health and environment regulations. Evidence including: • Can use of technical language and detail covering the key elements of the Quality, safety, health and environment regulations when questioned • Can explain the impact of not complying to quality, safety, health and environment regulations

Behaviours to be assessed	Fail Criteria Apprentice does not demonstrate the required knowledge for occupational competence	Pass Criteria To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below
B1 Health, Safety and Environment: Follow safe working practices, committed to their own and their colleagues wellbeing/fatigue at work and the precautions to prevent pollution of the marine and wider environment	Cannot demonstrate safe working practices.	Demonstrates they comply with H&S guidance & procedures. Evidence including: • Demonstrates understanding & importance of H&S requirements • Is able to identify and implement corrective/preventative actions • Dynamically assesses/controls risk in current environment • Describes why policies and procedures are required. • Can describe the specific safe working practices, maintenance procedures and environmental regulations that need to be observed when questioned

To achieve an overall pass for the apprenticeship, the apprentice must achieve a minimum of a pass in all of the skills grading descriptors in both the professional discussion and the practical observation.

To achieve an overall distinction for the apprenticeship, the apprentice must achieve a distinction for all the grading descriptors in the professional discussion and a pass for all the grading descriptors in the practical observation.

The Apprentice will fail if ANY individual grading descriptor is failed.