



End-point assessment plan for Marine Technical Superintendent apprenticeship standard

Apprenticeship standard number	Level of this end point assessment (EPA)	Integrated
ST0623	7	Non-integrated degree apprenticeship

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Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Marine Technical Superintendent 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 Marine Technical Superintendent apprentices, their employers and training providers.

Full time apprentices will typically spend 36 months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices must require and spend a minimum of 12 months on-programme.

The EPA period should only start, and the EPA be arranged, once the employer is satisfied that the apprentice is 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 that they can be evidenced to an EPAO.

All pre-requisites for EPA assessment methods must also be complete and available for the independent assessor as necessary.

As a gateway requirement and prior to taking the EPA, apprentices must complete all approved qualifications mandated in the Marine Technical Superintendent occupational standard.

These are:

- Bachelor of Engineering (BEng)

For level 3 apprenticeships and above apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPA must be completed within an EPA period lasting a maximum of 8 months, after the apprentice has met the EPA gateway requirements.

The EPA consists of 2 discrete assessment methods.

The individual assessment methods will have the following grades:

Assessment method 1: Workplace project with presentation and questioning

- Distinction
- Pass
- Fail

Assessment method 2: Occupational competence interview supported by a portfolio of evidence

- Distinction
- Pass
- Fail

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

- Distinction
- Pass
- Fail

EPA summary table

On-programme (typically 36 months)	<ul style="list-style-type: none"> • Training to develop the occupation standard's knowledge, skills and behaviours (KSBs) • Working towards English and maths at level 2 if required • Compilation of portfolio of evidence
End-point assessment gateway	<ul style="list-style-type: none"> • Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard. • English and mathematics Level 2, as a minimum <p>Apprentices must complete the following approved qualifications mandated in the standard:</p> <ul style="list-style-type: none"> • BEng Engineering <p>Employer and EPAO agreed:-</p> <ul style="list-style-type: none"> • Workplace project subject, title and scope, including business case and key performance indicators at the gateway. The project should typically take 6 weeks to complete. To be fully competent, the apprentice must prove their ability to plan and deliver such projects, taking account of technical issues, necessary compliance frameworks, budgetary and time constraints, safety and the quality of the final delivery. The apprentice must evidence how the project addresses the KSBs assigned to this assessment method. <p>Apprentices must complete:</p> <ul style="list-style-type: none"> • Portfolio of evidence for occupational competence interview
End Point Assessment (which must take a maximum of 8 months)	<p>Assessment method 1: Workplace Project with presentation and questioning</p> <p>With the following grades:</p>

	<ul style="list-style-type: none"> · Distinction · Pass · Fail <p>Assessment Method 2: Occupational competence interview supported by a portfolio of evidence</p> <p>With the following grades:</p> <ul style="list-style-type: none"> · Distinction · Pass · Fail <p>Overall end-point assessment grade of:</p> <ul style="list-style-type: none"> · Distinction · Pass · Fail
Professional recognition	<p>Aligns with recognition by:</p> <ul style="list-style-type: none"> • Institute of Marine Engineering, Science and Technology (IMarEST) - Incorporated Engineer (IEng)

Length of end-point assessment period:

The EPA must be completed within an EPA period lasting a maximum of 8 months, after the apprentice has met the EPA gateway requirements.

Any supporting material required for the EPA should be submitted no later than 2 weeks before the occupational competence interview supported by a portfolio of evidence.

If an EPA assessment method is failed, it should be retaken within the EPA period and in-line with the requirements set out in this EPA plan.

Order of assessment methods

The assessment methods can be delivered in any order. The result of one assessment method does not need to be known before taking the next.

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:

English and mathematics at level 2.

For those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.

Apprentices must complete the following approved qualifications as mandated in the standard:

- BEng Engineering

For the workplace project with presentation and questioning, the employer and EPAO must have agreed the project's subject, title and scope, including business case and key performance indicators at the gateway. The project should typically take 6 weeks to complete. To be fully competent, the apprentice must prove their ability to plan and deliver such projects, taking account of technical issues, necessary compliance frameworks, budgetary and time constraints, safety and the quality of the final delivery. The apprentice must evidence how the project addresses the KSBs assigned to this assessment method.

For the occupational competence interview supported by a portfolio of evidence, the apprentice will be required to:

- prepare and submit a portfolio of evidence mapping experience against those KSBs that are being assessed by this method
 - each piece of evidence may map to more than one KSB, this will typically result in 20 pieces of evidence to cover all KSBs listed
 - provide confirmation from their employer that the apprentice is working at the level of, or above, the apprenticeship standard. The employer must sign off the portfolio of

evidence, thereby authenticating it and confirming that the apprentice is ready to take the EPA

- the portfolio of evidence itself is not assessed, it is used to inform the questioning for the occupational competence interview.
- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- employers/training providers are free to devise their own version of the portfolio of evidence, but the portfolio of evidence would typically contain the following information:
 - The name of the apprentice
 - Details of the apprentice's workplace
 - Sufficient evidence to support each of the KSBs related to this assessment method. Evidence can be provided through a range of sources; for example performance review documentation, witness statements, training records/certificates and work products such as risk assessments, reports, meeting records, plans etc. The portfolio of evidence cannot include self-assessment narrative, other than records of learning activities targeting their own professional development; instead feedback from line managers, customers, stakeholder etc. should be provided. Ideally, any employer contributions should focus on direct observation of evidence (e.g. witness statements) of competence rather than opinions
 - Confirmation from the apprentice's line manager that the tasks were completed to the required standard of the organisation

Assessment methods

Assessment method 1: Workplace project with presentation and questioning (This assessment method has two components.)

Method 1 component 1: Workplace project

Overview

The project is completed after the apprentice has gone through the gateway process.

The work-based project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs to be demonstrated for the EPA. Therefore the project's subject, title and scope will be agreed between the employer and the EPAO at the EPA gateway. The employer will ensure it has a real business application and the EPAO will ensure it meets the requirements of the EPA (including suitable coverage of the KSBs assigned to this assessment method). The EPAO and employer should sign-off the project subject, title and scope, including business case and key performance indicators to confirm its suitability prior to the apprentice going through the EPA gateway.

The rationale for this assessment method is:

The Marine Technical Superintendent occupation involves the planning and delivery of a range of vessel maintenance, upgrade and through-life support programmes. To be fully competent, the apprentice must prove their ability to plan and deliver such projects, taking account of technical issues, necessary compliance frameworks, budgetary and time constraints, safety and the quality of the final delivery. The project should typically take 6 weeks to complete. This is an effective assessment method for this complex occupation as it replicates workplace practices and addresses a range of KSBs.

Delivery

Apprentices will conduct a workplace project and the delivery outcomes will be in the form of a report.

The apprentice will conduct their workplace project and submit it to the EPAO after a maximum of 12 weeks of the EPA start date.

The employer will ensure the apprentice has sufficient time and the necessary resources, within this period, to plan and undertake the project.

Whilst completing the project, the apprentice must be supervised by the employer.

The project report must be submitted in electronic format.

The project will be based on vessel maintenance, such as dry-docking, engine overhaul, retrofitting modern systems, vessel upgrades, ship disposal etc.

The following template should be used for the project report:

1. An introduction
2. The scope of the project, including the business case and key performance indicators
3. Planning process and preparations beforehand, linked to appropriate compliance frameworks and contracts where appropriate
4. A project plan, detailing the timescales involved
5. Technical decisions made, including supporting evidence linked to clear requirements
6. Cost breakdown and consideration of financial options
7. Research and findings, including details of any innovation
8. Project outcomes, including operational problems overcome and personnel and safety considerations
9. Recommendations and conclusions, reflecting on the quality of the final delivery and a critical assessment of potential improvements to the project plan

10. An appendix, mapping how the project evidences each of the relevant KSBs for this assessment method

The project report should be no longer than 10,000 words. A tolerance of plus or minus 10% is allowed. Appendices, references, diagrams etc. are not included in the word limit.

When the project is submitted, the employer and the apprentice must verify the submitted work is that of the apprentice, authenticating the apprentice's contributions to the project. This is achieved by an employer sign-off.

Method 1 component 2: Work-based project presentation

Delivery

Apprentices will complete a presentation based on their work-based project (as detailed above) to the independent assessor. The presentation will last 40 minutes. The independent assessor has the discretion to increase the time of the presentation by up to 10% to, allow the apprentice to complete their final point. This will be followed by questions from the independent assessor to further probe KSBs or seek clarification. There will be a minimum of 6 questions and this will take an additional 40 minutes. Questions and responses must be recorded by the independent assessor. The independent assessor has the discretion to increase the time of the questioning by up to 10% to, allow the apprentice to complete their last answer. The end-point assessment organisation will establish and maintain a bank of questions for the independent assessor to adapt and tailor in response to the project presentation.

The work-based project presentation and answers to questions will be assessed against the core and specific KSBs as detailed in the mapping document and aligned to the grading criteria.

The presentation must cover: the technical work-based project scope, outcomes/achievements, any difficulties faced/lessons learned and recommendations. There are no restrictions on how apprentices deliver the presentation or support resources/materials used. However, any equipment requirements, (for example, computer and software, whiteboard, flip chart etc.) must be agreed with the EPAO, at least two weeks in advance of the presentation. Generally, presentations will consist of 5-8 presentation slides, supported by a handout or A1 poster.

Questions and responses must be recorded by the independent assessor.

Venue

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

The presentation can take place in any of the following:

- an employer's premises
- a suitable venue selected by the EPAO (for example, a training provider's premises)

Video conferencing can be used to deliver the presentation, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in some way (for example, screen share and 360-degree camera function with assessors when the assessments are undertaken remotely).

Marking

The independent assessor will review and mark the project in a timely manner, as determined by the EPAO, and without extending the EPA unnecessarily. The report, presentation and responses to questions will be holistically marked and will help to determine the final grade for this assessment method. Similarly all quality control processes will also be conducted in a timely manner, as determined by the EPAO.

Required supporting material

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

- Project report template to be given to the apprentice highlighting the requirement to link the project to the KSBs
- Assessment sheet for the independent assessor based on assessment criteria linked to the KSBs
- A 'question bank' of sample questions to be used following the presentation. This bank must be of sufficient size to prevent predictability and be reviewed regularly (at least once a year) to ensure the questions are fit for purpose. The independent assessor will review the report prior to this presentation in order to tailor the questions to be used.

Assessment method 2: Occupational competence interview supported by a portfolio of evidence (This Method has one component)

Assessment method 2 component 1: Occupational competence interview supported by a portfolio of evidence

Overview

This assessment will take the form of an occupational competence interview supported by a portfolio of evidence, 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 questions that will focus on coverage of prior learning or activity, offering the apprentice an opportunity to demonstrate occupational competence.

The occupational competence interview can take place in any of the following:

- A suitable venue selected by the EPAO (for example a training provider's premises)
- Employer's premises

The occupational competence interview will consist of a minimum 7 questions from a question bank prepared by the EPAO, covering each of the major areas of the assessment method (i.e. Provision of engineering expertise to the operation; provision of safety and compliance expertise to the operation; financial management; leadership qualities, team work and building successful relationships with stakeholders and others; communication; commitment to professional engineering values) and will be supported by the portfolio of evidence. Supplementary questions are allowed to seek clarification, asked and responded to within the allocated time.

The rationale for this assessment method is:

The purpose of this occupational competence interview is to determine the extent to which the apprentice understands the requirements of the role and can corroborate their KSBs with examples from their portfolio of evidence. The portfolio of evidence itself will not be assessed, but will be used by the apprentice to exemplify their responses to the questions asked by the independent assessor during the occupational competence interview. This method of assessment gives the independent assessor the opportunity to explore KSBs in detail and ensure all relevant competency elements are evidenced. It is also the most effective way of determining competence in the behavioural elements of this occupational standard.

Delivery

Independent assessors will conduct and assess the occupational competence interview supported by a portfolio of evidence.

The occupational competence interview supported by a portfolio of evidence must last for 60 minutes. The independent assessor has the discretion to increase the time of the occupational competence interview by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs, in-line with an EPAOs Reasonable Adjustments policy.

During this assessment method, the independent assessor must tailor questions from the EPAO's question bank, following review of the portfolio of evidence.

The occupational competence interview supported by a portfolio of evidence will be conducted as set out here:

- The occupational competence interview must take place on a one-to-one basis between an independent end-point assessor appointed by the EPAO and the apprentice.

- The occupational competence interview shall be supported by a portfolio of evidence and apprentices may refer to their portfolio of evidence when answering the questions.
- A copy of the portfolio of evidence shall be made available to the end-point assessment organisation no less than 10 working days prior to the occupational competence interview to allow for preparation.
- Apprentices must be given the opportunity to refer to their portfolio of evidence during the occupational competence interview.
- The occupational competence interview will last 60 minutes and the independent assessor will have the discretion to increase the time of the discussion by up to 10%, to allow the apprentice to complete answers.
- The occupational competence interview shall take place in an environment which is free from distractions.
- The apprentice shall be given suitable notice of the occupational competence interview, not less than 10 working days, to provide preparation time (for example, to make travel arrangements if necessary).
- The independent end-point assessor must ask the apprentice 7 questions, from a question bank prepared by the EPAO and tailored by the independent end-point assessor following review of the portfolio of evidence. Questions must cover underpinning KSBs as specified in the mapping document. Supplementary questions are allowed to seek clarification.
- The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the occupational competence interview.
- Video conferencing can be used to conduct the occupational competence 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 assessor to look around the room during the occupational competence interview.

Other relevant information

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

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

Required supporting material

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

- A question bank of sample questions, although independent assessors will need to tailor questions according to the work seen in the portfolio of evidence. The question bank

should be of sufficient size to prevent predictability and be reviewed regularly (at least once a year) to ensure the questions are fit for purpose.

- An assessment specification and guidance, and provide training to standardise approaches to occupational competence interviews across their independent assessors, ensuring reliable and consistent delivery of the occupational competence interview. This will include recording documentation.

Weighting of assessment methods

The assessment methods are equally weighted.

Grading

Assessment method 1: Workplace project with presentation and questioning

KSBs	Name of grade	Grade descriptor
<p>Planning and delivery of vessel maintenance</p> <p>K2, S1, S2, S4, B1, B3</p>	<p>Pass</p>	<p>Apprentice must meet all PASS criteria below:-</p> <p>Describes organising and planning an appropriate technical project, working under pressure to strict deadlines, detailing how those deadlines were achieved without compromising cost or quality.</p> <p>Explains the difference between vessel maintenance programmes, such as schedules for refit, fleet time maintenance, planned maintenance systems (PMS), regular servicing, dry docking, vessel upgrades, repair and internal/external audits</p> <p>Evaluates complex, technical information from at least three sources to draw accurate conclusions and make informed decisions e.g. total cost of ownership and on-going impact</p> <p>Completes risk analysis to predict problems and uses innovative solutions to solve problems where appropriate e.g. to promote operational availability of vessels and reduce costs.</p> <p>Plans, implements and monitors the project to time, cost and quality</p> <p>Evidence of acting on their own initiative with integrity</p>

<p>Financial management K3, S6, S14</p> <p>Communication K9, S11, B5, B7</p>		<p>Manages extra and emergent work effectively i.e. within financial and time constraints ensuring required quality standards are met</p> <p>Presents a business case; analyses financial data and applies an understanding of maritime sector economics to support commercial decisions; monitors and controls maintenance and repair costs throughout the project</p> <p>Includes appropriate financial considerations such as fuel costs, environmental impact etc. to justify vessel maintenance or the adoption of emerging technologies</p> <p>Liaises with stakeholders to ensure successful delivery of the project.</p> <p>Demonstrates effective listening skills and expresses their points in a succinct manner using appropriate, sector-specific terminology. Responds to all questions or challenge confidently, with active and purposeful contributions</p> <p>Describes developing successful working relationships with, and influencing stakeholders to ensure successful delivery of the project</p> <p>Evidence of acting as an enabler to provide services in an efficient and transparent way</p>
<p>Planning and delivery of vessel maintenance,</p>	<p>Distinction</p>	<p>Apprentice must meet all PASS criteria and all DISTINCTION criteria below:-</p> <p>Articulates how they have taken research and analysis further, for example, by looking outside of their own organisation or engineering</p>

<p>including financial management and communication</p> <p>K2, K9, S1, S2, S4, S6</p>		<p>practices to predict or solve operational problems</p> <p>Uses proven project management techniques such as critical path analysis and performance management to ensure outcomes are achieved effectively and efficiently. Justifies the techniques used, outlining the benefits and demonstrating a clear understanding of their application in delivering practical solutions within a regulated sector</p> <p>Describes how to manage issues and risks when a project does not perform to plan in terms of cost, timescales and/or quality, and the mitigating actions imposed</p> <p>Exceeds the requirements of the project by implementing additional systems/methods/service improvements not outlined in the original project brief/business case, for example to reduce environmental impact</p> <p>Includes an appreciation of the wider implications of spend and the impact it has on the business as a whole</p> <p>Demonstrates ability to lead the discussion, with a clear understanding of the latest trends and issues in the sector. Can assess anticipated technology changes and the impact on projects and budgetary constraints. Develops insight and command of the subject matter through liaison with relevant manufacturers</p>
	<p>Fail</p>	<p>Apprentice has not met all of the PASS criteria</p>

<p>Financial management S5</p> <p>Leadership qualities, teamwork and building successful relationships with stakeholders and others K4, K6, K8, S8, S9, B2</p>		<p>investigation into defects/failures with vessels, and defend decisions made</p> <p>Demonstrates consistent safe and professional working practices, keeping themselves and others safe, taking responsibility for promoting a safety culture and raising standards. Provides examples of leadership and an understanding of the options available during an emergency situation</p> <p>Demonstrates awareness of how to keep up-to-date with new regulations and compliance requirements and is pro-active in keeping their knowledge up-to-date</p> <p>Demonstrates how to successfully manage operating expenditure (OPEX) and capital expenditure (CAPEX) technical budgets including monitoring and controlling the cost of repairs, spare parts, fuel and lube oil usage</p> <p>Distinguishes the roles and responsibilities of various stakeholders including insurance companies, Flag State, Port State Control and Classification Societies and demonstrates successful working relationships through feedback</p> <p>Demonstrates their ability to build a team and be a leader through drive and motivation, and a commitment to manage others effectively. Can describe good and bad practice in teams and can articulate what a good leader is from their own experience</p> <p>Builds successful relationships with different business functions and stakeholders or as part of a wider team, demonstrated through feedback</p>
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<p>Communication S10</p> <p>Commitment to professional engineering values K10, S13, B9</p>		<p>Evidence of the successful exchange of information with staff and stakeholders at all levels (and time zones, if appropriate); for example, through feedback of their contribution during meetings</p> <p>Demonstrates their knowledge of current industry advances and their potential application in an engineering capacity e.g. green shipping practices and automation. Able to reference key sources of new information e.g. publications such as Inside Marine, World Maritime News and Maritime Journal</p> <p>Demonstrates how they use their knowledge of current industry advances to initiate communications with potential manufacturers to investigate the benefits to their organisation</p> <p>Presents their personal development plan as evidence of the commitment to seeking out opportunities to develop</p>
<p>Provision of safety, compliance and financial management expertise to the operation K5, S3, S5, B10</p>	<p>Distinction</p>	<p>Apprentice must meet all PASS criteria and all DISTINCTION criteria below:-</p> <p>Evaluates the impact of not following regulatory practices and the potential consequences and risks to the operation</p> <p>Demonstrates knowledge of the latest regulations and compliance requirements for a wide range of vessel types and understands their operational application.</p> <p>Describes successful forward-planning strategies to manage cost, including considerations such as planned obsolescence and renewal of equipment</p>

Leadership qualities, teamwork and building successful relationships and communicating with stakeholders and others K8, S8, S9		<p>Achieves a high-performance work culture and superior business results through successful leadership, including setting clear business goals, defining employees' responsibilities, motivating and empowering others and encouraging employees to continuously grow and develop.</p> <p>Develops persuasive and convincing arguments based on insight and significant command of the sector and the subject matter. For example during conflict resolution to minimise the impact on the operation and maximise efficiency</p>
	Fail	Apprentice has not met all of the PASS criteria

Overall EPA grading

All EPA methods must be passed for the EPA to be passed overall. Failure of any one of the EPA methods will result in an overall fail.

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 – Workplace project with presentation and questioning	Assessment method 2 – occupational competence interview supported by a portfolio of evidence	Overall grading
Fail	Any grade*	Fail
Any grade	Fail	Fail
Pass	Pass	Pass
Pass	Distinction	Pass
Distinction	Pass	Pass
Distinction	Distinction	Distinction

*Any grade = Pass or distinction

Roles and responsibilities

Role	Responsibility
Apprentice	<ul style="list-style-type: none"> • Complete the on-programme element of the apprenticeship • Prepare for and complete the EPA
Employer	<ul style="list-style-type: none"> • Choose an independent EPAO approved to deliver the EPA for this apprenticeship standard from the Education & Skills Funding Agency's (ESFA) Register of End-Point Assessment Organisations (RoEPAO) • Identify when the apprentice is ready to pass the gateway and undertake the EPA
EPAO	<p>As a minimum EPAOs should:</p> <ul style="list-style-type: none"> • appoint suitable independent assessors who are appropriately qualified and experienced in assessment • provide a programme of training for independent assessors • appoint staff who can undertake the internal quality assurance (QA) stated in this plan • operate internal QA in line with the requirements stated in this plan • design and develop EPA tools, documentation and processes, including a bank of questions for the EPA occupational competence interview • securely record and store all EPA decisions • administer the certification process • agree the focus for the Workplace Project, jointly with the apprentice and the employer • confirm with the employer that the apprentice has passed the gateway and is ready to undertake the EPA
Independent assessor	<p>As a minimum an Independent assessor should:</p> <ul style="list-style-type: none"> • be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest • have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading • have relevant experience of the occupation/sector gained in the last two years and hold qualifications at an equivalent level or higher than that of the apprentice

	<ul style="list-style-type: none"> • undertake a minimum of 1-days' EPAO standardisation training per year
Training provider	<p>As a minimum the training provider should:</p> <ul style="list-style-type: none"> • 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

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:
maritime sector and marine engineering
- appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:
 - be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
 - have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading
 - have relevant experience of the occupation/sector gained in the last two years and hold qualifications at an equivalent level or higher than that of the apprentice
 - undertake a minimum of 1-days' EPAO standardisation training per year
- 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

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 any failed assessment methods only.

Any assessment method re-sit or re-take must be taken during the maximum EPA period, otherwise the entire EPA must be taken again, unless in the opinion of the EPAO exceptional circumstances apply outside the control of the apprentice or their employer.

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.

Affordability

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

- using an employer's premises
- remote assessment is permissible, reducing travel costs, e.g. video conferencing
- workplace project will be designed to have business benefit
- the expected annual starts for this occupation is 20-30

Professional body recognition

This apprenticeship is designed to prepare successful apprentices to meet the requirements for registration as Incorporated Marine Engineer (IMarEng) with IMarEST and (Incorporated Engineer) IEng with The Engineering Council.

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.

Mapping of knowledge, skills and behaviours (KSBs)

Note: The omission of S12 in the following table is intentional as it has been removed from the standard

KSB code	KSB statement	Methods mapped against
Knowledge		
K1	Vessel construction and operation for a fleet of vessels of varying types and complexity (K1)	Assessment method 2
K2	Programmes/schedules for refit, fleet time maintenance, planned maintenance systems (PMS), regular servicing, dry docking, vessel upgrades, repair and internal / external audits (K2)	Assessment method 1
K3	Financial strategies to manage technical budgets in order to successfully monitor and control maintenance and repair costs (K3)	Assessment method 1
K4	Insurance stakeholder roles (broker, underwriter, surveyor) for the effective processing of Maritime insurance claims (K4)	Assessment method 2
K5	Regulatory compliance frameworks for the technical management of vessels, crew safety and protection of the environment such as International Convention for the Safety of Life at Sea (SOLAS), International Convention for the Prevention of Pollution from Ships (MARPOL), International Maritime Dangerous Goods Code (IMDG), ISM Code, Standards of Training Certification and Watchkeeping (STCW), International Labour Organisation Maritime Labour Convention (ILO MLC), Flag State, International Organisation for Standardisation (ISO) requirements, hazard analysis	Assessment method 2

tools and workforce health and safety legislation and how they affect technical planning (K5)

K6	Clear understanding of the relationships and responsibilities of Flag State, Port State Control and Classification Societies (K6)	Assessment method 2
K7	Processes and appropriate record-keeping for risk assessment, vessel audit and inspection and accident investigation (K7)	Assessment method 2
K8	Leading and managing teams successfully, including conflict resolution and managing difficult conversations (K8)	Assessment method 2
K9	Effective oral and written communication strategies and a working knowledge of the terminology used in this occupation (K9)	Assessment method 1
K10	How to access industry news and market trends through relevant publications and technical bulletins, such as those published by International Maritime Organisation (IMO) or IMarEST etc. (K10)	Assessment method 2
K11	Technical expertise and knowledge of options (e.g. 3rd party assistance) during emergencies (K11)	Assessment method 2

Skills

S1	Evaluate complex, technical information from many sources drawing accurate conclusions and making informed decisions (S1)	Assessment method 1
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S2	Predict and solve operational problems with innovative solutions where appropriate and using integrated software solutions to aid problem solving (S2)	Assessment method 1
S3	Work within any necessary commercial and budgetary constraints to ensure vessels remain in a safe and seaworthy condition in accordance with Classification Society and Flag State requirements, are operated safely and meet all necessary regulatory standards (S3)	Assessment method 2
S4	Organise and plan technical projects within agreed strict deadlines and budget, and to agreed quality standards to optimise the utilisation of vessels within a given fleet. Ensure that all work is completed in accordance with the appropriate contract and that extra and emergent work is completed within financial and time constraints ensuring required quality standards are met (S4)	Assessment method 1
S5	Manage the operating expenditure (OPEX) and capital expenditure (CAPEX) technical budgets for the maintenance and dry docking of vessels in the fleet, including monitoring and control of the cost of repairs, spare parts, fuel and lube oil usage (S5)	Assessment method 2
S6	Develop and apply an understanding of maritime sector economics to support well-founded commercial decision-making. Analyse financial data and liaise with all relevant stakeholders to maintain an efficient technical operation (S6)	Assessment method 1
S7	Successfully implement compliance frameworks for the technical management of vessels, crew safety and protection of the environment such as SOLAS, MARPOL, IMDG Code, ISM Code, STCW, ILO MLC, Flag State, ISO requirements and workforce health and safety legislation (S7)	Assessment method 2

S8	Build, lead and manage multifunctional teams, interacting with and influencing a range of internal and external stakeholders. Develop HR-related skills such as the performance management of staff, recruitment and selection activities etc. (S8)	Assessment method 2
S9	Act as a team player when operating as part of a wider team (S9)	Assessment method 2
S10	Communicate effectively and professionally with all levels within and across the organisation, both at-sea and on-shore. Positively challenge to affect change where appropriate (S10)	Assessment method 2
S11	Develop and maintain close working relationships with stakeholders to ensure that all parties are aware of operational and technical requirements (S11)	Assessment method 1
S13	Effectively liaise with relevant manufacturers regarding technological advances (S13)	Assessment method 2
S14	Effectively scope, allocate accurate budgetary costs and present a business case for vessel upgrades or the adoption of emerging technologies to optimise performance (S14)	Assessment method 1

Behaviours

B1	Be self-motivated with the ability to work independently and with integrity (B1)	Assessment method 1
B2	Able to take personal responsibility for their actions, demonstrate leadership and show resilience (B2)	Assessment method 2
B3	Able to work under pressure to tight deadlines (B3)	Assessment method 1
B4	Be an implementer of best practice in technical and safety management, complying with the International	Assessment method 2

Safety Management (ISM) code and adhering to the company's safety management systems (SMS). Promote and adopt a safety culture within the organisation, taking responsibility for effective problem-solving, emergency response and safeguarding the company's reputation (B4)

B5	Able to interact and influence a range of stakeholders (B5)	Assessment method 1
B6	Able to integrate technical operations with financial requirements (B6)	Assessment method 2
B7	Able to function as an enabler to provide services rendered in an efficient and transparent way (B7)	Assessment method 1
B8	Promote the case for the adoption of emerging technologies to optimise performance (B8)	Assessment method 2
B9	Enable their own professional development, seeking opportunities to enhance their knowledge, skills and experience. Keeping abreast of current industry advances in advanced manufacturing and computer technologies such as cybersecurity best practice and ship automation, and their potential application in an engineering capacity. Maintaining awareness of new regulations and compliance requirements (B9)	Assessment method 2
B10	Maintaining awareness of new regulations and compliance requirements (B10)	Assessment method 2