

Bulk Storage Technician (AP V1.0)
Level 3 Apprenticeship Standard (ST1339)
Specification



This guide describes the different types of End-Point Assessment tests, the test rules and who should be involved. Preparing for End-Point Assessment and working with SIAS are also covered.

SIAS is the science industry assessment service. It is part of the Cogent Skills Group. For further information about apprenticeship standards and Trailblazers please contact info@siasuk.com.

Version History

Version	Updates
1.0	This document refers to Assessment Plan Version 1.0

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Objective

The aim of this End-Point Assessment (EPA) is to ensure that the apprentice is occupationally competent against the knowledge, skills and behaviours outlined in the assessment plan for this standard.

Bulk storage terminal technicians work in bulk storage terminals.

Bulk storage terminals provide storage and logistics infrastructure services. They provide an essential link in the supply chain for a large variety of products including transport and heating fuels, gasses, chemicals, and food-grade products such as animal feeds and fats, oils, and molasses. Bulk storage terminals provide and support an essential interface between sea, road, rail, waterway, and pipeline logistics and are strategically located in ports and airports, logistic platforms, along rivers, canals, and pipelines. Bulk storage ensures that products are supplied when they are needed, and in the quantities required. Many terminals are designated as critical national infrastructure by the UK Government - necessary for a country to function and upon which daily life depends.

A terminal may provide third party storage or store their own products. They could store a single product or multiple products. They may provide supplementary services such as blending, packaging, canning, drum filling, water treatment and analysis, warehousing, and bonded alcohol storage.

Bulk storage terminal technicians operate the import and export of bulk products and conduct monitoring, treatment, and quality assurance during its storage. The transfer of products can be to or from ship, via pipelines, to or from road or rail tankers, or from tank to tank. Maintaining workplace health, safety, and environmental compliance is a vital part of the role. They will also conduct preventative maintenance, prepare equipment for shut-down, and reinstate it. They are often required to work outdoors. They need to wear specialist personal protective equipment (PPE) and may work at height or in confined spaces. They may be required to work shifts.

On a daily basis, they work with other members of the operations team, suppliers, and customers. They also have contact with other departments within the company for example, maintenance engineers and laboratory staff. They may work alone and as part of a team.

They are responsible for ensuring that the service meets regulatory and customer requirements. They must follow industry health, safety, environmental, and sustainability working practices. Quality, security, contract conditions and product requirements must also be met. They work with minimal supervision, taking responsibility for the quality and accuracy of the work they undertake.

Prior Learning and Qualifications

Employers will set their own entry requirements, which may include GCSEs. Some employers may require candidates to have a health screening to confirm they are medically fit to undergo breathing apparatus and confined spaces training to support emergency response.

Overview

A full-time bulk storage terminal technician apprentice typically spends 30 months on-programme. The apprentice must spend at least 12 months on-programme and complete the required amount of off-the-job training in line with the apprenticeship funding rules.

The EPA should be completed within an EPA period lasting typically 3 months.

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

This EPA has 3 assessment methods.

The grades available for each assessment method are below.

Assessment method 1 - observation with questions:

- fail
- pass
- distinction

Assessment method 2 - interview underpinned by a portfolio of evidence:

- fail
- pass
- distinction

Assessment method 3 - multiple-choice test:

- fail
- pass

The result from each assessment method is combined to decide the overall apprenticeship grade. The following grades are available for the apprenticeship:

- fail
- pass
- merit
- distinction

Competence Evaluation

During the apprenticeship, regular evaluation of the competence of the apprentice against the apprenticeship standard will help to ensure that they achieve full occupational competence by the end of their training, and they are ready for EPA. Confirmation from the employer that the apprentice is fully competent is needed before EPA can take place.

As competence evaluation is an in-programme activity, the process that is used for this has not been mandated. It is for the employer supported by their training provider to decide how they wish to do this. To help with this SIAS has produced the SIAS Competence Tracker.

Gateway Requirements

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

The apprentice must meet the gateway requirements before starting their EPA.

They must:

- confirm they are ready to take the EPA
- have achieved English and mathematics qualifications in line with the apprenticeship funding rules
- submit a portfolio of evidence for the interview underpinned by a portfolio of evidence.

Portfolio of evidence requirements:

The apprentice must compile a portfolio of evidence during the on-programme period of the apprenticeship. It should only contain evidence related to the KSBs that will be assessed by the interview. It will typically contain 10 discrete pieces of evidence. Evidence must be mapped against the KSBs. Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested.

Evidence sources may include:

- workplace documentation and records, for example: product records, process records, quality assurance records, and handover notes.
- witness statements.
- annotated photographs.
- video clips with a maximum total duration 10 minutes; the apprentice must be in view and identifiable.

This is not a definitive list; other evidence sources can be included.

The portfolio of evidence should not include reflective accounts or any methods of self-assessment. Any employer contributions should focus on direct observation of performance, for example, witness statements, rather than opinions. The evidence provided should be valid and attributable to the apprentice; the portfolio of evidence should contain a statement from the employer and apprentice confirming this.

SIAS will not assess the portfolio of evidence directly as it underpins the interview. The end-point assessor will review the portfolio of evidence to prepare questions for the interview. They are not required to provide feedback after this review.

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

Assessment Methods

This EPA has three assessment methods:

1. Observation with questions
2. Interview underpinned by a portfolio of evidence
3. Multiple-choice test.

Assessment Method 1: Observation with Questions

In the observation with questions, an end-point assessor observes the apprentice in their workplace and asks questions. The apprentice completes their day-to-day duties under normal working conditions. Simulation is not allowed. It gives the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method.

The observation with questions must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method to the highest available grade.

An end-point assessor must conduct and assess the observation with questions.

The end-point assessor must only observe one apprentice at a time to ensure quality and rigour. They must be as unobtrusive as possible.

SIAS must give the apprentice 2 weeks' notice of the observation with questions.

The observation must take 2 hours.

The end-point assessor can increase the time of the observation with questions by up to 10%. This time is to allow the apprentice to complete a task or respond to a question if necessary.

The observation may be split into discrete sections held on the same working day.

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

The end-point assessor must explain to the apprentice the format and timescales of the observation with questions before it starts. This does not count towards the assessment time.

The end-point assessor will observe the following during the observation:

- maintaining workplace health, safety, security, and environmental compliance
- organising own work
- using work information
- preparing and using materials, tools, and equipment
- conducting a bulk storage process in full or part: import, export, treatment, or blending
- conducting quality assurance
- completing work records
- communicating with others

These activities provide the apprentice with the opportunity to demonstrate the KSBs mapped to this assessment method.

The end-point assessor must ask questions. Questioning can occur both during and after the observation.

The purpose of the questions is:

- to seek clarification where required
- to assess the level of competence against the grading descriptors

The time for questioning is included in the overall assessment time. The end-point assessor must ask at least 5 questions. To remain as unobtrusive as possible, the end-point assessor should ask questions during natural stops between tasks and after completion of work rather than disrupting the apprentice's flow. The end-point assessor must use the questions from SIAS's question bank or create their own questions in line with the SIAS's training. Follow-up questions are allowed where clarification is required.

The end-point assessor must ask questions about KSBs that were not observed to gather assessment evidence. These questions are in addition to the above set number of questions for the observation with questions and should be kept to a minimum.

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

The end-point assessor must make the grading decision. The end-point assessor must assess the observation and responses to questions holistically when deciding the grade.

The end-point assessor must keep accurate records of the assessment. They must record:

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

The observation with questions must take place in the apprentice's normal place of work for example, their employer's premises or a customer's premises. Equipment and resources needed for the observation must be confirmed to be available by SIAS, who can liaise with the employer to provide these. They must be in good and safe working condition.

Questioning that occurs after the observation should take place in a suitable environment, for example a quiet room, free from distractions and influence.

Observation with Questions Grading Descriptors

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
<p>Maintaining workplace health and safety, security and environmental compliance. K6 K7 K9 K10 K13 S1 S2 S3 S4 S5 S6 S8 B1</p>	<p>P1 Identifies potential hazards and risks and mitigation measures in line with safe systems of work including safety critical tasks and equipment. (K7, K9, S1)</p> <p>P2 Prioritises and applies health, safety, and environmental procedures including selection, use, and care of personal protective equipment and signage and access restriction measures in line with task requirements and company procedures. (K10, S2, S3, B1)</p> <p>P3 Conducts task health, safety, and environmental checks in line with company procedures. (S4, S8)</p> <p>P4 Conducts emergency equipment and system checks including safety instrumented systems (SIS), functional safety, and emergency shut down systems (ESD) in line with company procedures. (K6, S5)</p> <p>P5 Follows security procedures in line with company requirements. (K13, S6)</p>	<p>D1 Explains the importance of applying health, safety, and environmental procedures in their work. (K9, K10, S2)</p>
<p>Organising own work K17 K18 S12 S13</p>	<p>P6 Uses planning, prioritising, and time management techniques to plan tasks and identifies and organises resources required to complete them</p>	<p>None</p>

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
	with consideration for safety, environmental impact, quality, cost, and delivery. (K17, K18, S12, S13)	
Using work information K21 S11	P7 Reviews information to plan and complete tasks. (K21, S11)	None
Preparing and using materials, tools and equipment S17 S18 S19 S20 S21	<p>P8 Selects, checks, and prepares materials in line with task requirements and company procedures. (S17)</p> <p>P9 Selects tools and equipment and conducts visual and physical checks in line with task requirements and company procedures. (S18)</p> <p>P10 Connects, aligns, and disconnects equipment in line with task requirements and company procedures. (S19, S20)</p> <p>P11 Stores tools and equipment safely in line with company procedures. (S21)</p>	None
Conducting a bulk storage process in full or part: import, export, treatment or blending K19 K22 K25 K30 K32 S14 S16 S22 S23 S24 S25 S26 S28 B3	<p>P12 Takes responsibility for the quality of their own work by running a bulk storage process or processes using bulk storage plant and equipment in line with task requirements and company standard operating procedures including contamination control when:</p> <ul style="list-style-type: none"> conducting final process pre-start safety checks 	<p>D2 Justifies how following SOPs protects people, environment, assets, and reputation (PEAR). (K22, S16)</p> <p>D3 Uses process parameter calculations to inform work activity. (K19, S14)</p>

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
	<ul style="list-style-type: none"> • starting up process operation on agreed parameters • monitoring process operation • adjusting process parameters • shutting down and conducting post process procedures • clearing equipment <p>P13 Outlines their company's SOP change control procedure. (K22, K25, K30, K32, S16, S22, S23, S24, S25, S26, S28, B3)</p> <p>P14 Conducts process parameter calculations including volumes, pressure, ullage, density, and flow rates using numerical approximations and unit conversion tables to record process activity in line with company procedures. (K19, S14)</p>	
<p>Conducting quality assurance K33 K34 S29</p>	<p>P15 Takes samples for testing using sampling and dipping techniques in line with the task's quality control requirements as part of the company's quality assurance management system. (K33, K34, S29)</p>	<p>D4 Explains the importance of taking samples and testing in line with quality control requirements. (K34, S29)</p>
<p>Completing work records K35 S44</p>	<p>P16 Records or enters information for work tasks - paper based or electronic - in line with company procedures for documentation control and</p>	<p>None</p>

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
	auditable records. (K35, S44)	
Communicating with others K44 S43	P17 Uses communication techniques suitable for the context. (K44, S43)	None

Fail – An apprentice will fail where they do not demonstrate all the pass descriptors.

Observation with Questions Knowledge, Skills and Behaviours

Ref	Grading descriptor
Knowledge	
K6	Principles of safety instrumented systems (SIS) and functional safety. Role of emergency shut down systems (ESD).
K7	Bulk storage potential hazards and risks and mitigation methods.
K9	Safe systems of work and their role in mitigating incidents. Safety critical tasks and safety critical equipment.
K10	Personal protective equipment (PPE): selection, use and care.
K13	Security requirements.
K17	Business operation considerations: quality, cost, and delivery.
K18	Planning, prioritising, and time management techniques.
K19	Numerical approximations and unit conversion tables. Volumes, pressure, ullage, density, and flow rates calculations.
K21	Sources of work information.
K22	Standard operating procedures - what they are and how to use them; change control requirement.
K25	Bulk storage plant and equipment: application and operation.
K30	Contamination control requirements.
K32	Clearing equipment methods.
K33	Quality assurance management systems.
K34	Quality control sampling and testing requirements. Sampling and dipping techniques.
K35	Documentation requirements: documentation control and auditable records.
K44	Non-written communication techniques.
Skills	
S1	Identify hazards and risks in the workplace and mitigation measures.
S2	Apply health, safety, and environmental procedures. For example, safe systems of work and PPE.
S3	Apply signage and access restriction measures.
S4	Conduct task health and safety checks. For example, check PPE, review safety data sheets, check gas monitors, check weather conditions, and review control spillage procedures.
S5	Conduct emergency equipment and system checks. For example, check safety shower, first aid kits, fire alarms, safety instrumented system, and emergency response equipment.
S6	Follow security procedures.

S8	Conduct task environmental checks. For example, bunds, inceptors, spill kits, sump alarms, and kits.
S11	Review information. For example, work instructions and handover notes.
S12	Uses planning, prioritising, and time management techniques to plan tasks.
S13	Identify and organise resources with consideration for safety, environmental impact, quality, cost, and delivery.
S14	Conduct process parameter calculations.
S16	Follow standard operating procedures (SOPs).
S17	Select, check, and prepare materials. For example, weigh, measure, blend, and transfer.
S18	Select tools and equipment; conduct visual and physical checks. For example, corrosion and damage checks.
S19	Connect and align equipment. For example, connect pipelines, add hoses, and open or close valves.
S20	Disconnect equipment.
S21	Store tools and equipment.
S22	Conduct final process pre-start safety checks.
S23	Start up process operation on agreed parameters.
S24	Monitor process operation. For example, take readings and conduct line walks.
S25	Adjust process parameters.
S26	Shut down and conduct post process procedures. For example, volume and quantity checks, visual inspection, and storage.
S28	Clear equipment. For example, pigging and line clearing
S29	Take samples for testing. For example, density, water levels, Ph levels, and conductivity checks.
S43	Communicate with others. For example, colleagues and stakeholders.
S44	Record or enter information - paper based or electronic.
Behaviours	
B1	Prioritise safe working practices.
B3	Take responsibility for the quality of their own work.

Assessment Method 2: Interview Underpinned by Portfolio of Evidence

In the interview, an end-point assessor asks the apprentice questions. It gives the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method.

The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence.

The interview must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method to the highest available grade.

An end-point assessor must conduct and assess the interview.

The purpose of the end-point assessor's questions is to assess the apprentice's competence against the following themes:

- role and responsibilities
- process safety
- working sustainably
- cleaning equipment
- following planned preventative maintenance schedules
- preparing bulk storage plant for shut down before handover and reinstatement
- resolving issues
- participating in continuous improvement including continued professional development (CDP)
- teamworking
- producing written documents
- interpreting drawings and graphs
- using digital and information technology

SIAS must give an apprentice 2 weeks' notice of the interview.

The end-point assessor must have at least 2 weeks to review the supporting documentation.

The apprentice must have access to their portfolio of evidence during the interview.

The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence however, the portfolio of evidence is not directly assessed.

The interview must last for 60 minutes. The end-point assessor can increase the time of the interview by up to 10%. This time is to allow the apprentice to respond to a question if necessary.

The end-point assessor must ask at least 6 questions. The end-point assessor must use the questions from SIAS's question bank or create their own questions in line with the SIAS's training. Follow-up questions are allowed where clarification is required.

The apprentice may choose to end the assessment method early. The apprentice must be confident they have demonstrated competence against the assessment requirements for the assessment method. The end-point assessor or SIAS must ensure the apprentice is fully aware of all assessment requirements. The end-point assessor or SIAS cannot suggest or choose to

end the assessment methods early, unless in an emergency. SIAS is responsible for ensuring the apprentice understands the implications of ending an assessment early if they choose to do so. The end-point assessor may suggest the assessment continues. The end-point assessor must document the apprentice’s request to end the assessment early.

The end-point assessor must make the grading decision.

The end-point assessor must keep accurate records of the assessment. They must record:

- the apprentice’s answers to questions
- the KSBs demonstrated in answers to questions
- the grade achieved

The interview must take place in a suitable venue selected by SIAS for example, SIAS’s or the employer’s premises.

The interview can be conducted by video conferencing. SIAS must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

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

Interview Underpinned by Portfolio of Evidence Grading Descriptors

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
Role and responsibilities K2 S39 B4	P1 Describes their role as a bulk storage terminal technician including their limits of responsibility, how they escalate issues, and how they respond and adapt to work demands in line with organisational requirements. (K2, S39, B4)	None
Process safety K11 S7	P2 Describes how they have or would respond in a given emergency in line with their company's emergency incident procedures. (K11, S7)	None
Working sustainably K15 K16 S9 S10 B2	P3 Describes how they apply the principles of sustainability in their work including resource efficiency, reuse of materials, and recycling in	D1 Justifies the application of sustainability practice in the workplace. (K15, S9)

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
	<p>support of the UK's net zero commitment. (K15, S9, B2)</p> <p>P4 Describes how they manage waste streams in line with their company's waste management procedures. (K16, S10)</p>	
<p>Cleaning equipment K31 S27</p>	<p>P5 Describes how they clean equipment using methods suitable for the task in line with company procedures. (K31, S27)</p>	<p>None</p>
<p>Following planned preventative maintenance schedules K36 S30</p>	<p>P6 Describes how they apply planned preventative maintenance practices in line with schedules to support their company's maintenance strategy. (K36, S30)</p>	<p>D2 Justifies how applying planned preventative maintenance supports operational performance. (K36, S30)</p>
<p>Preparing bulk storage plant for shut down before handover and reinstatement K37 K38 S31 S32 S33 S34 S35 S36</p>	<p>P7 Describes how they prepare bulk storage plant for shut down before handover in line with their company's procedures including identifying equipment for handover, shutting down and isolating process, systems, and equipment, completing isolation checks, and emptying equipment. (K37, S31, S32, S33)</p> <p>P8 Describes how they reinstate equipment in line with their company's procedures including completing reinstatement equipment checks, connecting service utilities, and deisolating the process</p>	<p>D3 Explains the importance of applying shut down and reinstatement requirements. (K37, K38, S32, S33, S34, S35, S36)</p>

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
	and systems. (K38, S34, S35, S36)	
Resolving issues K39 K40 S37 S38	P9 Describes how they identify issues including common tank storage and process faults and apply problem solving and fault-finding techniques to establish the root cause. (K39, K40, S37, S38)	None
Participating in continuous improvement including continued professional development (CDP) K41 S40 S41 B6	P10 Describes how they have applied continuous improvement (CI) techniques to identify a viable improvement suggestion. (K41, S40) P11 Describes planned and unplanned learning and development activities they have undertaken and recorded to meet personal development needs, showing a commitment to future CPD. (S41, B6)	D4 Justifies the potential impact of the improvement suggestion with consideration to benefits and risks. (K41, S40)
Teamworking K42 K43 S42 B5	P12 Describes how they apply teamwork principles to meet work goals in line with their company's policy on equity, diversity, and inclusion. (K42, K43, S42, B5)	None
Producing written documents K45 S45	P13 Describes how they apply written communication techniques to produce documents in their work suitable for context. (K45, S45)	None
Interpreting drawings and graphs K20 S15	P14 Describes how they interpret drawings and graphs using conventions for drawings and graphical information. (K20, S15)	None

Theme KSBs	Pass Grade Descriptor	Distinction Grade Descriptor
Using digital and information technology K46 K47 S46	<p>P15 Describes how they use information technology software packages and management information systems in work tasks in compliance with GDPR and cyber security requirements. (K46, S46)</p> <p>P16 Outlines the application of automation of control systems in the bulk storage industry. (K47)</p>	None

Fail – An apprentice will fail where they do not demonstrate all the pass descriptors.

Interview Underpinned by Portfolio of Evidence Knowledge, Skills and Behaviours

Ref	Grading descriptor
Knowledge	
K2	Bulk storage technician’s role. Limits of responsibility. Escalation procedures.
K11	Emergency procedures.
K15	The UK's net zero commitment. Principles of sustainability: resource (energy, water, and waste) efficiency, reuse of materials, and recycling.
K16	Waste management procedures.
K20	Conventions for drawings and graphical information.
K31	Cleaning equipment methods.
K36	Planned preventative maintenance strategy, schedules, and practice.
K37	Requirements for shutting down bulk storage plant and equipment.
K38	Requirements for reinstating bulk storage plant and equipment.
K39	Common tank storage and process faults and causes.
K40	Problem solving and fault-finding techniques.
K41	Continuous improvement techniques.
K42	Teamwork principles.
K43	Principles of equity, diversity and inclusion in the workplace.
K45	Written communication techniques.
K46	Information technology software packages. Management information systems. General data protection regulation (GDPR). Cyber security.
K47	Application of automation of control systems in the bulk storage industry.
Skills	
S7	Follow emergency response procedures. For example, make area safe, and evacuate.
S9	Apply sustainability principles. For example, minimising waste and recycling.
S10	Manage waste streams.

S15	Interpret drawings and graphs. For example, pipeline and instrumentation diagrams.
S27	Clean equipment. For example, washing, inerting, purging, and gas scrubbing.
S30	Apply planned preventative maintenance practices. For example, filter changes, lubrication, oil checks, functional testing, leak repairs, and pipeline inspections.
S31	Identify equipment for handover.
S32	Shut down and isolate process, systems, and equipment. Complete isolation checks.
S33	Empty equipment. For example, drain, purge, vent, and de-pressure.
S34	Complete equipment reinstatement checks. For example, fill, pressurise, and leak test.
S35	Connect service utilities. For example, water, air, nitrogen, and steam.
S36	De-isolate the process and systems.
S37	Identify issues. For example, defects, deviations, process variance, and maintenance requirements.
S38	Apply problem-solving and fault-finding techniques to identify root cause.
S39	Escalate issues outside limits of responsibility. For example, defects.
S40	Apply continuous improvement techniques to identify improvement suggestions.
S41	Plan how to meet personal development needs. Carry out and record planned and unplanned learning and development activities.
S42	Apply team working principles.
S45	Produce documents. For example, handover notes or emails, management of change requests, and near miss incident reports.
S46	Use information technology. For example, word processing, databases, spreadsheet, email, virtual learning platforms, and document sharing platforms. Comply with GDPR and cyber security requirements.
Behaviours	
B2	Consider sustainability in their work.
B4	Respond and adapt to work demands.
B5	Team-focus to meet work goals including support for equity, diversity and inclusion.
B6	Committed to continued professional development.

Assessment Method 3: Multiple-choice Test

In the multiple-choice test, the apprentice answers questions in a controlled and invigilated environment. It gives the apprentice the opportunity to demonstrate the knowledge mapped to this assessment method.

The multiple-choice test must be structured to give the apprentice the opportunity to demonstrate the knowledge mapped to this assessment method to the highest available grade.

The test can be computer or paper based.

The test will consist of 40 multiple-choice questions.

Multiple-choice questions must have four options, including one correct answer.

The apprentice must be given at least 2 weeks’ notice of the date and time of the test.

The apprentice must have 60 minutes to complete the test.

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

The test must be taken in the presence of an invigilator who is the responsibility of SIAS. SIAS must have an invigilation policy setting out how the test must be conducted. It must state the ratio of apprentices to invigilators for the setting and allow the test to take place in a secure way.

SIAS must verify the apprentice’s identity and ensure invigilation of the apprentice for example, with 360-degree cameras and screen sharing facilities.

SIAS is responsible for the security of the test including the arrangements for on-line testing. SIAS must ensure that their security arrangements maintain the validity and reliability of the test.

Multiple-choice Test Grading Descriptors

Grade	Minimum Marks Required	Maximum Marks Required
Fail	0	27
Pass	28	40

Multiple-choice Test Knowledge, Skills and Behaviours

Ref	Grading descriptor
Knowledge	
K1	Bulk storage operations – role, critical national infrastructure designation, and importance. Types of employers: product owners, third party storage. Supply chain and types of customers and stakeholders. Business environment and location factors. Range of products and services.
K3	Health and safety, regulations, standards and guidance - requirements and impact on role: Control of Major Accident Hazards (COMAH) Regulations, Control of Substances Hazardous to Health (COSHH) Regulations, Dangerous Substances and Explosive Atmospheres Regulations (DSEAR), Display Screen Equipment Regulations, Electrical safety and compliance, Fire safety, Human factors, Lifting Operations and Lifting Equipment Regulations (LOLER), Lone working, Manual handling regulations, Health and Safety at Work Act, Provision and Use of Work Equipment Regulations (PUWER), The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), working at height, and working in confined spaces.
K4	Health and safety management systems. Process safety management. Process safety performance indicators. Learning from incidents and principles of incident investigation.
K5	Control of Work (CoW) requirements.
K8	Different types of risk assessments.
K12	Personal wellbeing, physical, and mental health awareness.

K14	Environmental regulations and standards – impact on role: Environment Permitting Regulations, Environmental Management Systems standard, Environmental Protection Act, and Hazardous Waste Regulations.
K23	Chemical and physical properties of substances. Purpose of safety data sheets.
K24	Principles of material compatibility in bulk storage operations.
K26	Methods of bulk transfer: to and from ship, via internal and external pipeline, to and from road tanker, to and from rail tanker, tank to tank, and via airport. Principles of bulk transfer operations: route, ullage, product, and transfer rates. Principles of jetty operations.
K27	Stock management principles, practice, and documentation: product movement sheets, labelling, and Bill of Lading (BoL).
K28	Principles for maintaining product parameters and safe storage.
K29	Principles that underpin the treatment and blending of bulk products.

Final Grade

Performance in the EPA determines the overall grade of:

- fail
- pass
- merit
- distinction

An end-point assessor must individually grade the observation with questions and interview underpinned by a portfolio of evidence in line with this EPA plan.

SIAS will combine the individual assessment method grades to determine the overall EPA grade.

If the apprentice fails one assessment method or more, they will be awarded an overall fail.

To achieve an overall pass, the apprentice must achieve at least a pass in all the assessment methods. To achieve an overall merit, the apprentice must gain a distinction in the observation with questions or interview underpinned by a portfolio of evidence and a pass in the other two assessment methods. To achieve an overall distinction, the apprentice must gain a distinction in the observation with questions and interview underpinned by a portfolio of evidence, and a pass in the multiple-choice test.

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

Observation with Questions	Interview Underpinned by a Portfolio of Evidence	Multiple-Choice Test	Overall Grading
Any grade	Any grade	Fail	Fail
Any grade	Fail	Any grade	Fail
Fail	Any grade	Any grade	Fail
Pass	Pass	Pass	Pass
Pass	Distinction	Pass	Merit
Distinction	Pass	Pass	Merit
Distinction	Distinction	Pass	Distinction

Moderation

Assessment organisations will undertake moderation of end-point assessor decisions through observations and examination of documentation on a risk sampling basis. Results cannot be confirmed until moderation has been completed.

Re-takes and re-sits

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

The employer and SIAS should agree the timescale for a re-sit or re-take. A re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 4 months of the EPA outcome notification.

Failed assessment methods must be re-sat or re-taken within a 6-month period from the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full.

Re-sits and re-takes are not offered to an apprentice wishing to move from pass to a higher grade.

The apprentice will get a maximum EPA grade of pass if they need to re-sit or re-take one or more assessment methods, unless SIAS determines there are exceptional circumstances.

Certification

The outcomes from the End-Point Assessment will be reviewed and a grade conferred by SIAS in accordance with SIAS QA procedures, which are available from SIAS. SIAS will notify the employer of the outcome of each of the assessments.

SIAS will apply for the apprentice’s certificate, which will be sent by ESFA. The certificate confirms that the apprentice has passed the End-Point Assessment, has demonstrated full competency across the standard and is job-ready.

Assessment Specification

The assessment specification can be found in the published assessment plan for the standard. Details of which elements of the apprenticeship standard will be tested by each test are given in the Mapping Knowledge, Skills, and Behaviours section of this guide.

Mapping of Knowledge, Skills, and Behaviours

Key:	
Observation with questions	Obs
Interview underpinned by a portfolio of evidence	Int
Multiple-choice test	MCQ

Ref	KSB to be assessed	Assessment Method
Knowledge		
K1	Bulk storage operations – role, critical national infrastructure designation, and importance. Types of employers: product owners, third party storage. Supply chain and types of customers and stakeholders. Business environment and location factors. Range of products and services.	MCQ
K2	Bulk storage technician’s role. Limits of responsibility. Escalation procedures.	Int
K3	Health and safety, regulations, standards and guidance - requirements and impact on role: Control of Major Accident Hazards (COMAH) Regulations, Control of Substances Hazardous to Health (COSHH) Regulations, Dangerous Substances and Explosive Atmospheres Regulations (DSEAR), Display Screen Equipment Regulations, Electrical safety and compliance, Fire safety, Human factors, Lifting Operations and Lifting Equipment Regulations (LOLER), Lone working, Manual handling regulations, Health and Safety at Work Act, Provision and Use of Work Equipment Regulations (PUWER), The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), working at height, and working in confined spaces.	MCQ

Ref	KSB to be assessed	Assessment Method
K4	Health and safety management systems. Process safety management. Process safety performance indicators. Learning from incidents and principles of incident investigation.	MCQ
K5	Control of Work (CoW) requirements.	MCQ
K6	Principles of safety instrumented systems (SIS) and functional safety. Role of emergency shut down systems (ESD).	Obs
K7	Bulk storage potential hazards and risks and mitigation methods.	Obs
K8	Different types of risk assessments.	MCQ
K9	Safe systems of work and their role in mitigating incidents. Safety critical tasks and safety critical equipment.	Obs
K10	Personal protective equipment (PPE): selection, use and care.	Obs
K11	Emergency procedures.	Int
K12	Personal wellbeing, physical, and mental health awareness.	MCQ
K13	Security requirements.	Obs
K14	Environmental regulations and standards – impact on role: Environment Permitting Regulations, Environmental Management Systems standard, Environmental Protection Act, and Hazardous Waste Regulations.	MCQ
K15	The UK's net zero commitment. Principles of sustainability: resource (energy, water, and waste) efficiency, reuse of materials, and recycling.	Int
K16	Waste management procedures.	Int
K17	Business operation considerations: quality, cost, and delivery.	Obs
K18	Planning, prioritising, and time management techniques.	Obs
K19	Numerical approximations and unit conversion tables. Volumes, pressure, ullage, density, and flow rates calculations.	Obs
K20	Conventions for drawings and graphical information.	Int
K21	Sources of work information.	Obs
K22	Standard operating procedures - what they are and how to use them; change control requirement.	Obs
K23	Chemical and physical properties of substances. Purpose of safety data sheets.	MCQ
K24	Principles of material compatibility in bulk storage operations.	MCQ
K25	Bulk storage plant and equipment: application and operation.	Obs

Ref	KSB to be assessed	Assessment Method
K26	Methods of bulk transfer: to and from ship, via internal and external pipeline, to and from road tanker, to and from rail tanker, tank to tank, and via airport. Principles of bulk transfer operations: route, ullage, product, and transfer rates. Principles of jetty operations.	MCQ
K27	Stock management principles, practice, and documentation: product movement sheets, labelling, and Bill of Lading (BoL).	MCQ
K28	Principles for maintaining product parameters and safe storage.	MCQ
K29	Principles that underpin the treatment and blending of bulk products.	MCQ
K30	Contamination control requirements.	Obs
K31	Cleaning equipment methods.	Int
K32	Clearing equipment methods.	Obs
K33	Quality assurance management systems.	Obs
K34	Quality control sampling and testing requirements. Sampling and dipping techniques.	Obs
K35	Documentation requirements: documentation control and auditable records.	Obs
K36	Planned preventative maintenance strategy, schedules, and practice.	Int
K37	Requirements for shutting down bulk storage plant and equipment.	Int
K38	Requirements for reinstating bulk storage plant and equipment.	Int
K39	Common tank storage and process faults and causes.	Int
K40	Problem solving and fault-finding techniques.	Int
K41	Continuous improvement techniques.	Int
K42	Teamwork principles.	Int
K43	Principles of equity, diversity and inclusion in the workplace.	Int
K44	Non-written communication techniques.	Obs
K45	Written communication techniques.	Int
K46	Information technology software packages. Management information systems. General data protection regulation (GDPR). Cyber security.	Int
K47	Application of automation of control systems in the bulk storage industry.	Int
Skills		
S1	Identify hazards and risks in the workplace and mitigation measures.	Obs

Ref	KSB to be assessed	Assessment Method
S2	Apply health, safety, and environmental procedures. For example, safe systems of work and PPE.	Obs
S3	Apply signage and access restriction measures.	Obs
S4	Conduct task health and safety checks. For example, check PPE, review safety data sheets, check gas monitors, check weather conditions, and review control spillage procedures.	Obs
S5	Conduct emergency equipment and system checks. For example, check safety shower, first aid kits, fire alarms, safety instrumented system, and emergency response equipment.	Obs
S6	Follow security procedures.	Obs
S7	Follow emergency response procedures. For example, make area safe, and evacuate.	Int
S8	Conduct task environmental checks. For example, bunds, inceptors, spill kits, sump alarms, and kits.	Obs
S9	Apply sustainability principles. For example, minimising waste and recycling.	Int
S10	Manage waste streams.	Int
S11	Review information. For example, work instructions and handover notes.	Obs
S12	Uses planning, prioritising, and time management techniques to plan tasks.	Obs
S13	Identify and organise resources with consideration for safety, environmental impact, quality, cost, and delivery.	Obs
S14	Conduct process parameter calculations.	Obs
S15	Interpret drawings and graphs. For example, pipeline and instrumentation diagrams.	Int
S16	Follow standard operating procedures (SOPs).	Obs
S17	Select, check, and prepare materials. For example, weigh, measure, blend, and transfer.	Obs
S18	Select tools and equipment; conduct visual and physical checks. For example, corrosion and damage checks.	Obs
S19	Connect and align equipment. For example, connect pipelines, add hoses, and open or close valves.	Obs
S20	Disconnect equipment.	Obs
S21	Store tools and equipment.	Obs
S22	Conduct final process pre-start safety checks.	Obs

Ref	KSB to be assessed	Assessment Method
S23	Start up process operation on agreed parameters.	Obs
S24	Monitor process operation. For example, take readings and conduct line walks.	Obs
S25	Adjust process parameters.	Obs
S26	Shut down and conduct post process procedures. For example, volume and quantity checks, visual inspection, and storage.	Obs
S27	Clean equipment. For example, washing, inerting, purging, and gas scrubbing.	Int
S28	Clear equipment. For example, pigging and line clearing.	Obs
S29	Take samples for testing. For example, density, water levels, Ph levels, and conductivity checks.	Obs
S30	Apply planned preventative maintenance practices. For example, filter changes, lubrication, oil checks, functional testing, leak repairs, and pipeline inspections.	Int
S31	Identify equipment for handover.	Int
S32	Shut down and isolate process, systems, and equipment. Complete isolation checks.	Int
S33	Empty equipment. For example, drain, purge, vent, and de-pressure.	Int
S34	Complete equipment reinstatement checks. For example, fill, pressurise, and leak test.	Int
S35	Connect service utilities. For example, water, air, nitrogen, and steam.	Int
S36	De-isolate the process and systems.	Int
S37	Identify issues. For example, defects, deviations, process variance, and maintenance requirements.	Int
S38	Apply problem-solving and fault-finding techniques to identify root cause.	Int
S39	Escalate issues outside limits of responsibility. For example, defects.	Int
S40	Apply continuous improvement techniques to identify improvement suggestions.	Int
S41	Plan how to meet personal development needs. Carry out and record planned and unplanned learning and development activities.	Int
S42	Apply team working principles.	Int
S43	Communicate with others. For example, colleagues and stakeholders.	Obs

Ref	KSB to be assessed	Assessment Method
S44	Record or enter information - paper based or electronic.	Obs
S45	Produce documents. For example, handover notes or emails, management of change requests, and near miss incident reports.	Int
S46	Use information technology. For example, word processing, databases, spreadsheet, email, virtual learning platforms, and document sharing platforms. Comply with GDPR and cyber security requirements.	Int
Behaviours		
B1	Prioritise safe working practices.	Obs
B2	Consider sustainability in their work.	Int
B3	Take responsibility for the quality of their own work.	Obs
B4	Respond and adapt to work demands.	Int
B5	Team-focus to meet work goals including support for equity, diversity and inclusion.	Int
B6	Committed to continued professional development.	Int

Further Information

For information about SIAS policies, quality assurance, re-sits, appeals, complaints and general enquiries please see our website: www.siasuk.com

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