GQA PAA\VQSET LEVEL 2 DIPLOMA IN JETTY OPERATIONS

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Centre Qualification Handbook

Competence-based Qualifications

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INTRODUCTION TO THE HANDBOOK

This qualification sits within the Regulated Qualifications Framework (RQF).

This Qualification Handbook has been developed to ensure that GQA Centres understand the requirements of the qualification. The Handbook contains the following information:

- Qualification Structure
- Assessment Requirements
- Assessment Methods
- Glossary
- Qualification Units

This Qualification Handbook has been developed to provide support in the implementation of the qualification as well as giving information to ensure that the assessment and quality assurance is consistent, robust and reliable within each centre and nationally. The handbook also contains details of the skills and/or knowledge the learner must obtain to achieve the units and qualification.

Qualification Structure

This section of the handbook summarises the content of the qualification and the skills and/or knowledge learners that achieve it can be expected to gain. It also outlines the units required to achieve the qualification and will give the learner an idea of how long the qualification will take to achieve through the Total Qualification Time (TQT) and how much contact time they can expect through the Guided Learning Hours (GLH). It also provides information about possible progression opportunities once the qualification has been achieved.

Assessment Requirements

The assessment requirements for the qualification will cover any specific information about how the qualification may be assessed, such as whether assessors require specific qualifications or occupational competence and whether simulation is permitted in the achievement process.

Assessment Methods

This section summarises the different assessment methods and types of evidence that support assessment; these may be used to demonstrate competence or the achievement of knowledge and understanding.

Qualification Units

The unit overview summarises the content of the unit and the skills and/or knowledge the learner will have gained on achievement of the unit. The units may also contain additional information in the assessment context which will describe the areas to be covered and any appropriate assessment guidance and evidence requirements which will outline additional assessment requirements and should be built into assessment plans and included on assessment records. The unit detail will also confirm whether simulation is permitted for that particular unit.

Qualification Assessment and Support Materials

Centres will be sent the following qualification assessment and support materials:

- Assessment Forms – it is not mandatory to use these forms. Centres may wish to use their own assessment documentation – these should be approved by the External Verifier prior to use.
- Learner Guide
- Qualification Handbook
- Registration Spreadsheet & Certification Claim Forms

LEVEL 2 DIPLOMA IN JETTY OPERATIONS

Qualification Summary

This qualification is designed to confirm occupational competence for those involved in jetty operations on process plants.

Total Qualification Time (TQT) and Guided Learning Hours (GLH)

Guided Learning Hours (GLH)

Guided Learning Hours are the time the learner is under the immediate supervision or guidance of a lecturer, supervisor, tutor or other appropriate provider or education or training.

The GLH for this qualification is 244

Total Qualification Time (TQT)

Total Qualification Time is comprised of 2 elements:

1. GLH
   plus
2. an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by (but not under the immediate supervision of) a lecturer, supervisor, tutor or other appropriate provider or education or training

The TQT for this qualification is 430

Achieving the Qualification

16 Units must be achieved

Mandatory Units: All 14 Mandatory Units must be achieved

Optional Units: Learners must achieve 2 Optional Units. Knowledge and competence units must be taken in combination i.e. if unit JO 8k is chosen, unit JO 8c must also be completed; and vice-versa.

Mandatory Units

Unit No.	Unit Name	Credit Value
JO 01k	How to Contribute to the Mooring Operations within Jetty Operations	2
JO 01c	Contribute to the Mooring Operations within Jetty Operations	2
JO 02k	How to Contribute to the Preparations for the Product Transfer within Jetty Operations	4
JO 02c	Contribute to the Preparations for the Product Transfer within Jetty Operations	4
JO 03k	How to Contribute to the Transfer of Product within Jetty Operations	3
JO 03c	Contribute to the Transfer of Product within Jetty Operations	3
JO 04k	How to Contribute to Post-Transfer Operations within Jetty Operations	3
JO 04c	Contribute to Post-Transfer Operations within Jetty Operations	2
JO 05k	How to Contribute to Maintenance Operations within Jetty Operations	2
JO 05c	Contribute to Maintenance Operations within Jetty Operations	2
JO 06k	How to Contribute to Health and Safety Operations within Jetty Operations	3

JO 06c	Contribute to Health and Safety Operations within Jetty Operations	3
JO 07k	How to Contribute to Emergency Operations within Jetty Operations	4
JO 07c	Contribute to Emergency Operations within Jetty Operations	3

Optional Units

Learners must achieve 2 Optional Units.

Unit No.	Unit Name	Credit Value
JO 08k	How to Contribute to the Pre-Arrival of Ship within Jetty Operations	3
JO 08c	Contribute to the Pre-Arrival of Ship within Jetty Operations	2
JO 09k	How to Contribute to Pre-Mooring Operations within Jetty Operations	3
JO 09c	Contribute to Pre-Mooring Operations within Jetty Operations	2
JO 10k	How to Take Samples within Jetty Operations	2
JO 10c	Take Samples within Jetty Operations	1
JO 11k	How to Take Measurements and Perform Calculations of Product within Jetty Operations	1
JO 11c	Take Measurements and Perform Calculations of Product within Jetty Operations	2

Progression

This Level 2 Diploma has been developed from the Jetty Operations National Occupational Standards.

Further information can be found on the GQA website www.GQAqualifications.com or on the Register of Regulated Qualifications website http://register.ofqual.gov.uk

ASSESSMENT REQUIREMENTS

Assessors must ensure that, when assessing the skills, knowledge and/or understanding, the evidence produced by learners is:

- Valid – does evidence meet the requirements described in the unit?
- Authentic – has the learner produced the evidence?
- Current – has the evidence been produced recently and does it demonstrate current competence?
- Sufficient – is there enough evidence to demonstrate competence?

to enable reliable and consistent judgements to be made about the achievement of all the requirements of the unit(s) and qualification.

GQA Centres must ensure that people involved in the assessment process have the appropriate expertise and are adequately informed and supported to fulfil their responsibilities.

ASSESSMENT STRATEGY

Below is the information to support the assessment requirements of the qualification:

- Mandatory use of evidence from workplace performance
- Use of Simulation
- Occupational competence of assessors and verifiers

Mandatory use of evidence from workplace performance

a. Unless the use of simulation is expressly permitted within the qualification or unit specific evidence requirements, evidence must demonstrate the learner's competence in a real or realistic environment.

b. Knowledge and Understanding will be assessed via (pre-set and/or free form) questions, or by inference from performance, which cover three primary types of knowledge:

- Knowledge of facts and procedures
- Understanding of principles, concepts and underpinning procedures
- How to apply principles and procedures in specific contexts

All questions must be asked by the assessor at appropriate moments throughout the assessment process, preferably linked to observed activity and/or review of documentary evidence. The questions asked of, and answers provided by, the learner must be recorded.

Use of Simulation

c. The qualification or unit specific assessment requirements will define where evidence from simulation is acceptable, and in which contexts.

Simulation should be used only where direct evidence of learner performance cannot be obtained. Under these circumstances simulation may be used for summative assessment. Reasons for the use of simulation should be made clear to and agreed by the external verifier and should include the following details:

- which competence (and standards) the simulation was designed to assess;
- the kind of equipment, facilities and physical environment proposed for the simulation of performance. It is unlikely that the External Verifier will approve a simulation if it does not involve real plant and equipment;
- how the simulated activity relates to the learner's normal work context in terms of the pressures of time, access to resources and access to information, and the communication media; and

- how the simulation was set up and conducted, preferably supported by physical evidence such as photographs or inspection of a test rig.

  Assessors, internal verifiers and external verifiers should monitor the proportion of evidence generated via simulations to ensure that it is not the primary source of a learner's claim to competence.

d. Under these circumstances simulations are reserved for aspects of competence illustrated by the following contexts:

- where demonstration of emergency shutdown and related safety procedures would be; **dangerous and/or disruptive** to plant/environment/individuals; **too costly** such as total plant shutdown or dealing with spillage of dangerous substances; where **issues of confidentiality** restrict access to real work opportunities;
- demonstrating specific aspects of the operation which rarely or never occur due to effective quality assurance systems;
- the capacity to integrate disparate knowledge to cope with unforeseen events and to solve problems; or
- aspects of working relationships and communications for which no opportunity has presented for the use of naturally occurring workplace evidence of learner performance.

e. Simulation must enable the individual to demonstrate competence in a real or realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, reflect normal working situations and use relevant industrial or commercial standards and procedures. Short work placements or non-realistic work environments which do not replicate the pressures and requirements of normal commercial or industrial activities will not be acceptable. The bulk of the learner's evidence should be drawn from their normal working activity and not consist of artificially contrived opportunities for one-off demonstration of competence. Similarly equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.

f. Simulation must enable the individual to acquire his/her skills and knowledge in a realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, it reflects normal working situations and uses relevant industrial or commercial standards and procedures. Where possible providers should attempt to replicate the pressures and requirements of normal commercial or industrial activities. Equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.

g. Circumstances outside of those listed in Section D above may also be considered suitable for the use of simulation with the agreement of the External Verifier and GQA. Under these circumstances simulation may be used for formative assessment only.

Occupational competence of Assessor and Verifiers

h. Assessors:

- must be competent in the units they are assessing. This is shown through the assessor having achieved the award they are assessing OR providing quality evidence to the external verifier that they are able to make valid judgements of the competence of learners. This could be done through a combination of a) personal interview, b) review of employment histories and/or c) examination of the assessor's judgement during assessments.
- must have a working knowledge of awards and a full understanding of that part of the award for which they have responsibility.
- should hold or be working towards suitable qualifications for assessment, as defined by GQA.

i. Internal verifiers:

- must be either working in the appropriate sector itself OR they must be able to demonstrate they possess practical and up-to-date knowledge of current working practices appropriate to the sector in which they are carrying out verification practices; and
- must be appointed by a GQA recognised centre
- must have a working knowledge of the awards they are internally verifying
- should hold or be working towards suitable qualifications for verification, as defined by GQA.

ASSESSMENT METHODS AND TYPES OF EVIDENCE

The following section gives information on the different assessment methods/types of evidence that support assessment. The following assessment methods/types of evidence may be used to demonstrate competence or that the learner has achieved the required level of knowledge and understanding.

Observation of Performance

Observation allows the assessor to see learners carrying out their work activities. It will take place primarily in the workplace but can also be undertaken in a training scheme. Natural discussion should take place where possible during observation, allowing the assessor to ask questions relating to what they are observing at the time. Assessors must capture their observations either by a written report and/or other methods (e.g. video, audio recording).

Questioning

This method of assessment can be used to ensure that the learner has knowledge and understanding to support their skills. Questions can be used to check knowledge - these questions can either be verbal during or at the end of an observation, or they can be set in a written format in formal or informal conditions. As some units may focus entirely on learners' knowledge, assessors may encourage a variety of evidence to meet the requirements of the unit – use of verbal and/or written questions, learner statements and professional discussion (see below). Verbal questioning or professional discussion should be captured, either by written notes or audio recording.

Products

Work product evidence may be generated as a result of work activities undertaken by learners, and could include reports, letters, or records of work carried out.

Witness Statement or Testimony

A Witness Statement or Testimony is confirmation by others that the learner carried out an activity or series of activities relevant to the requirements of the unit. It could be written by the learner and signed by the witness to confirm that it did take place, or the witness may write the statement. Alternatively, the assessor could speak to the witness and record the discussion. The statement can then be used as evidence within an assessment.

There may be occasions when an Expert Witness may be required to contribute to the assessment process. GQA's definition of an Expert Witness is 'an experienced employee who works in partnership with the assessor, by observing the learner carrying out their duties and recording their observations in line with the assessment procedures'. It should be noted that while the Expert Witness makes a valued contribution to the assessment process, it is the assessor who makes the assessment decision.

Simulation

Simulations are a source of performance evidence showing how an activity is carried out. Simulations require careful planning to ensure that they reflect as near as possible "real life" conditions and the requirements of the qualification(s). As a result of this the costs to set up a simulation may be considerable. Simulations are likely to be used in the following situations:

- they occur infrequently (e.g. dealing with emergencies)
- they involve unusual working conditions (e.g. working in isolation, outside the workplace)
- the work is hazardous
- it is not cost effective

Any use of simulation should be discussed and agreed with the GQA External Verifier and approved prior to implementation.

Recognition of Prior Learning (RPL)

This is the process whereby credit is given to experienced individuals for their previous achievements. It requires careful mapping of the individual's experience to the unit(s) to ensure that it meets the requirements. This exercise must be referred to the External Verifier to ensure that all the evidence presented is acceptable.

Professional Discussion

A Professional Discussion gives the learner the opportunity to tell their assessor what they are doing and why they are doing it in a particular way. The discussion should be supported by appropriate evidence – an observation report, work product or witness testimony. Professional Discussions should be planned to give the learner the chance to prepare, and should be recorded.

Learner Statements

A Learner Statement is an account of an activity that took place, described by the learner. A detailed statement could demonstrate skill, and also provides evidence of knowledge and understanding. Learner statements should be authenticated by an appropriate person.

Photographs and use of other media

Photographs and use of other media, e.g. video and audio, can provide detail of work activities carried out and questioning. Photographs are more effective when used with supporting statements. Video and audio evidence should be effectively referenced to allow specific activities or questioning to be found easily. It is important to note that if photographs and other media are to be used, the learner and assessor should ensure that permission is gained from all people who may be involved.

GLOSSARY

Term	Definition
Access Arrangements	Arrangements that are approved in advance of an examination or assessment to allow achievement to be demonstrated by learners with a disability, special learning needs (including where the learner's first language is not English, Welsh or Irish) or to avoid unlawful discrimination
Appeal	The process through which an awarding organisation may be challenged on the outcome of an enquiry about results or, where appropriate, other procedural decisions affecting a centre or an individual learner
Assessment	The process of making judgements about the extent to which a learner's work meets the requirements of a unit, or any additional assessment requirements of a qualification
Assessor	A person who assesses a learner's work
Award of Qualifications	A certificate (electronic or paper-based) issued to an individual that recognises their achievement
Award	A qualification with a TQT value between 10 and 129
Awarding Organisation	A body recognised by the qualifications regulators to award qualifications
Centre	An organisation accountable to an awarding organisation for assessment arrangements leading to the award of qualifications
Centre Recognition	A process through which a centre wishing to offer an award or awards is confirmed as being able to maintain the required quality and consistency of assessment, and comply with other requirements of the awarding organisation
Certificate (1) for a Unit or Qualification	A record of attainment of a qualification issued by an awarding organisation
Certificate (2)	A qualification with a TQT value between 130 and 369
Credit	An award that may be made to a learner in recognition of the achievement of a unit or qualification
Credit Value	The number of credits that may be awarded to a learner for the successful achievement of a unit or qualification
Diploma	A qualification with a TQT value of 370 or above
Guided Learning Hours	The number of hours of teacher-supervised or directed study time required to teach a qualification or unit of a qualification
Learning Time	The amount of time a learner at the level of the unit is expected to take, on average, to complete the unit to the standard required
Level	An indication of the relative demand, complexity and/or depth of achievement, and/or the autonomy of the learner in demonstrating that achievement

Term	Definition
Mandatory Units	Units that must be achieved for the qualification to be awarded
National Occupational Standards (NOS)	Describe what a person needs to do, know and understand in a job to carry out the role in a consistent and competent way
Optional Unit	A unit that a learner may choose to complete to achieve the required number of units for award of the qualification
Pathway	A route to the achievement of a qualification that requires particular units to be achieved and is identified by an endorsement to a qualification title
Qualification	An award made to a Learner for the achievement of the required units or other components for that qualification
Qualification Level	An indication of the relative demand, complexity and/or depth of achievement, and/or the autonomy of the learner, represented by a qualification
Qualifications Regulators	Government-designated statutory organisations required to establish national standards for qualifications and secure consistent compliance with them
Recognition of Prior Learning (RPL)	A method of assessment that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and do not need to develop through a course of learning
Sector Skills Council	A body responsible for formulating and reviewing occupational standards for a specific sector across the UK, and for supporting the development of units and qualifications based on these standards. Each SSC is an employer-led, independent organisation and is licensed by government
Standardisation Of Assessment	A process to ensure that assessment leading to the award of qualifications is applied consistently by individuals, centres and awarding organisations
Unique Learner Number (ULN)	The unique number that is used to identify an individual learner
Unit	A component of a qualification

LEVEL 2 DIPLOMA IN JETTY OPERATIONS

CONTENT OF THE QUALIFICATION

MANDATORY UNITS

UNIT JO 01K	**HOW TO CONTRIBUTE TO THE MOORING OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**20**

Unit Overview

This unit addresses the knowledge required to contribute to the mooring operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Inspect and check mooring equipment, taking into account all of the following factors:
- Brake holding power and tensioning levels
- External factors – such as tide, weather, waves, passing ships
- Operating ranges and tolerances of mooring equipment
- Physical appearance of mooring equipment

Test the ship / shore access according to prescribed procedures, to ensure that is it:
- Clean and free from contamination
- Free from defects
- Unobstructed
- Well illuminated, and safety rigged with nets and other safety equipment as required

Deploy the ship / shore access according to prescribed procedures, taking account of all of the following:
- Safe working loads of lifting gear
- Safe procedure for connection
- Safe procedure for disconnection
- Max & Min ship freeboard (height above water)
- Max & Min tide flow

Monitor the shore / ship gangway according to prescribed procedures, and ensure that all of the necessary equipment is available may include:
- Nets and bulwark ladders

- Lifebuoy with light (if fitted) and line
- Life vest

Check and confirm that the ship and shore terminal has been inspected according to the prescribed checklist.

The prescribed checklist will include relevant sections from all of the following:

- ISGOTT Ship Shore Safety Checklist
- IMO Conventions
- National, local legislation and guidelines
- Terminal requirements
- ISPS Code

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to check and prepare mooring equipment	1.1. Describe how to carry out inspections of mooring equipment 1.2. Explain how to check the physical appearance of mooring equipment 1.3. Identify what equipment needs to be available
2. Know the integrity of the mooring system	2.1. Identify when mooring tensions are safe and appropriate 2.2. Identify the prescribed intervals for inspection 2.3. Describe how external factors can affect mooring 2.4. Outline the action to be taken if mooring equipment and / or tensions are not safe and appropriate
3. Know how to ensure that safe ship / shore access is maintained	3.1. Describe how to test the ship / shore access according to prescribed procedures 3.2. Identify the appropriate action to take if the ship / shore access is unsafe 3.3. State how to ensure that there is adequate space for the ship / shore access 3.4. Outline how to safely deploy the ship / shore access 3.5. Identify how external factors affect ship / shore access 3.6. Explain how to ensure that the ship / shore access is adequately tended, unobstructed and free to move
4. Know how to implement ship / shore safety checklist	4.1. State the safe working loads of lifting gear 4.2. Identify the relevant security procedures and how to follow them 4.3. Demonstrate how to check that the ship has been inspected according to prescribed safety checklist 4.4. Describe how to check that the shore / terminal has been inspected according to prescribed safety checklist 4.5. Outline how to ensure that hazards are minimised 4.6. Identify the methods to be used to confirm that the prescribed inspections have been completed

5. Know how to document and record all necessary information accurately	5.1. State what documentation and notices need to be provided to the ship 5.2. Identify how to obtain the relevant documentation and notices 5.3. Describe how to ensure that the ship receives the relevant documentation and notices 5.4. Outline how to ensure that inspections take place at prescribed intervals 5.5. Identify why it is important for inspections to take place at prescribed intervals 5.6. Define why it is important to record all information accurately

UNIT JO 01C	**CONTRIBUTE TO THE MOORING OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**8**

Unit Overview

This unit addresses the skills required to contribute to the mooring operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should at least once:

- Demonstrate appropriate inspection techniques of the mooring equipment
- Demonstrate correct operation and monitoring of the ship / shore access gangway

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 01k – How to Contribute to the Mooring Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Inspect and check mooring equipment, taking into account all of the following factors:

- Brake holding power and tensioning levels
- External factors – such as tide, weather, waves, passing ships
- Operating ranges and tolerances of mooring equipment
- Physical appearance of mooring equipment

Test the ship / shore access according to prescribed procedures, to ensure that is it:

- Clean and free from contamination
- Free from defects
- Unobstructed
- Well illuminated, and safety rigged with nets and other safety equipment as required

Deploy the ship / shore access according to prescribed procedures, taking account of all of the following:

- Safe working loads of lifting gear
- Safe procedure for connection
- Safe procedure for disconnection

Monitor the shore / ship gangway according to prescribed procedures, and ensure that all of the necessary equipment is available may include:

- Nets and bulwark ladders
- Lifebuoy with light (if fitted) and line
- Life vest

Check and confirm that the ship and shore terminal has been inspected according to the prescribed checklist.

The prescribed checklist will include relevant sections from all of the following:

- ISGOTT Ship Shore Safety Checklist
- IMO Conventions
- National, local legislation and guidelines
- Terminal requirements
- ISPS Code

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to check and prepare mooring equipment	1.1. Inspect mooring equipment at prescribed intervals 1.2. Take appropriate action if equipment and / or tensions appear not to be safe and correct 1.3. Ensure that all necessary equipment is available
2. Be able to ensure that safe ship / shore access is maintained	2.1. Ensure the ship / shore access meets prescribed procedures 2.2. Take the appropriate action if the ship / shore access is unsafe 2.3. Ensure that the space on berth is adequate for the ship's gangway 2.4. When required, deploy the gangway according to prescribed procedures 2.5. Ensure the ship / shore access is adequately tended and free to move 2.6. Ensure that ship / shore access is free of obstructions and suitable for use 2.7. Check tidal range whilst ship is at berth, and take the appropriate action
3. Be able to implement ship / shore safety checklist	3.1. Check that mooring tensions are safe and appropriate 3.2. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person 3.3. Communicate all relevant information to the appropriate people 3.4. Work safely in accordance with operational and environmental requirements 3.5. Follow relevant security procedures

UNIT JO 02K	**HOW TO CONTRIBUTE TO THE PREPARATIONS FOR THE PRODUCT TRANSFER WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**4**
GUIDED LEARNING HOURS	**36**

Unit Overview

This unit addresses the knowledge required to contribute to the preparations for the product transfer within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Determine transfer equipment for any transfer operation likely to be handled by own terminal. This may include:

- Cargo
- Bunkers / ballasts
- Slops
- Oily mixtures
- Liquid Gas

To include:

- Obtaining accurate details of products(s) to be transferred (for at least 1 product)
- Determining the required transfer conditions (for at least 1 product) taking account of any chemical and physical properties of product
- Determining required transfer equipment (for at least 1 product) which may include measurement and sampling equipment
- Establishing the sequence of transfer (for at least 1 product)

Follow procedures and check and confirm with either the ship and / or shore that:

- It is safe to connect / disconnect
- It is safe to de-activate systems
- All appropriate systems are deactivated

Check and confirm that telephones / emergency umbilicals are tested, safely connected, disconnected and stowed.

Establish and test radio communication links taking account of all of the following:

- Call signs
- Language / terminology
- Frequencies

Prepare and test hoses and loading arms prior to connection according to prescribed procedures. Procedures to cover confirmation of the following (subject to determining type of transfer equipment including hose, loading arm, etc):

- Hoses / loading arms to be suitable for ship, cargo, temperature and tidal / freeboard range
- Pressure test of hoses / loading arms to be in date
- Hardarm movements to be within set limits
- De-pressuring / draining / purging and / or inerting of hoses and loading arms
- Quick release systems
- Expansion / contraction fittings
- Return vapour hoses and connections
- Earthing due to static electricity (use of bonding straps / insulation joints)

Ensure that cargo, return vapour hoses and loading arms are balanced, slung, supported and connected / disconnected correctly, and visually check that all counter balances are in place.

Ensure containment of possible spillage by using all of the following:

- Bleed valves and blow-down equipment
- Drip trays and 'save alls'

Check and confirm appropriate lining up of terminal and ship transfer facilities taking account of all of the following:

- Layout of the terminal's pipework and pumping system
- Colour coding systems for identification of pipes and valves
- Identification of appropriate ship connections

Prepare transfer lines according to prescribed procedures and test the:

- Integrity of isolation valves
- Availability of isolation flanges, spools, drains, spades and U bends

Line up vapour return lines correctly according to transfer route, ensuring that:

- Vapour return lines are lined up to the appropriate plant at the terminal
- Vapour return lines are correctly connected to the ship's manifold
- Ship's personnel confirm that the ship's vapour lines are connected to the shore vapour return line

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to determine product transfer requirements	1.1. Identify how to obtain accurate details of the products to be transferred 1.2. Describe the required transfer conditions, taking into account all products characteristics 1.3. Outline how to determine transfer equipment requirements and check their availability 1.4. State how to establish the sequence of product transfer and why it is important to establish the correct transfer sequence 1.5. Identify the procedures that need to be followed
2. Know how to ensure telephones and emergency umbilicals are operating correctly prior to product transfer operation	2.1. Identify the connection / disconnection and test procedures for telephones and emergency umbilicals 2.2. State how to check and confirm that all telephones / emergency umbilicals have been tested prior to use 2.3. Describe how to ensure that all telephones / emergency umbilicals are connected to the correct sockets 2.4. Outline how to establish and test radio communication links between ship and shore are of an acceptable quality 2.5. State the radio communication techniques and procedures to use to ensure acceptable quality 2.6. Demonstrate how to correctly stow telephones and emergency umbilicals
3. Know how to confirm that equipment is operating correctly prior to product transfer operation	3.1. Identify all tools and equipment that are needed for connection / disconnection 3.2. Outline how to obtain and use information concerning hoses and loading arms 3.3. Describe how to obtain required tools and equipment and check that they are in working order 3.4. Explain how to prepare and test hoses and loading arms to prescribed procedures, prior to connection 3.5. Describe how to confirm that hoses and loading arms are operational 3.6. Identify methods of slinging, supporting and stowing hoses
4. Know how to confirm that systems are operating correctly prior to product transfer operation	4.1. Identify the appropriate systems that need to be activated and de-activated 4.2. Indicate how to check and confirm with the incoming ship that it is safe to connect / disconnect 4.3. Outline how to check and confirm with the shore that it is safe to activate and de-activate systems 4.4. State how to prepare and test vapour return lines according to prescribed procedures prior to connection 4.5. Describe how to test and confirm that the emergency disconnection system is operational

5. Know how to prepare equipment prior to product transfer operation	5.1. Identify the necessary pipes and valves 5.2. Outline how to check that hoses and loading arms are slung / supported and / or stowed correctly and the methods to do so 5.3. State how to check that hoses / loading arms have been connected / disconnected correctly according to prescribed procedures 5.4. Outline how to obtain spill containment equipment 5.5. Identify when and where to position spill containment equipment 5.6. Describe how to check and confirm that ship's manifolds are lined up with transfer equipment on the berth
6. Know how to prepare systems prior to product transfer operation	6.1. Outline how to check and confirm shore lines are properly set 6.2. State how to confirm that all appropriate systems are activated and de-activated 6.3. Outline the prescribed procedures for the preparation of transfer lines and systems 6.4. Identify how to follow these procedures and why it is important 6.5. Describe how to confirm vapour return lines are operational within agreed parameters

UNIT JO 02C	**CONTRIBUTE TO THE PREPARATIONS FOR THE PRODUCT TRANSFER WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**4**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to the preparations for the product transfer within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions with different products / loading arms if applicable:

- Demonstrate how to prepare and test hoses
- Demonstrate how to operate the loading arms within limits

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 02k – How to Contribute to the Preparations for the Product Transfer within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Determine transfer equipment for any transfer operation likely to be handled by own terminal. This may include:

- Cargo
- Bunkers / ballasts
- Slops
- Oily mixtures
- Liquid Gas

To include:

- Obtaining accurate details of products(s) to be transferred (for at least 1 product)
- Determining the required transfer conditions (for at least 1 product) taking account of any chemical and physical properties of product
- Determining required transfer equipment (for at least 1 product) which may include measurement and sampling equipment
- Establishing the sequence of transfer (for at least 1 product)

Follow procedures and check and confirm with either the ship and / or shore that:

- It is safe to connect / disconnect
- It is safe to de-activate systems
- All appropriate systems are deactivated

Check and confirm that telephones / emergency umbilicals are tested, safely connected, disconnected and stowed.

Establish and test radio communication links taking account of all of the following:

- Call signs
- Language / terminology
- Frequencies

Prepare and test hoses and loading arms prior to connection according to prescribed procedures. Procedures to cover confirmation of the following (subject to determining type of transfer equipment including hose, loading arm, etc):

- Hoses / loading arms to be suitable for ship, cargo, temperature and tidal range
- Pressure test of hoses / loading arms to be in date
- Hardarm movements to be within set limits
- De-pressuring / draining / purging and / or inerting of hoses and loading arms
- Quick release systems
- Expansion / contraction fittings
- Return vapour hoses and connections

Ensure that cargo, return vapour hoses and loading arms are balanced, slung, supported and connected / disconnected correctly, and visually check that all counter balances are in place.

Ensure containment of possible spillage by using all of the following:

- Bleed valves and blow-down equipment
- Drip trays and 'save alls'

Check and confirm appropriate lining up of terminal and ship transfer facilities taking account of all of the following:

- Layout of the terminal's pipework and pumping system
- Colour coding systems for identification of pipes and valves
- Identification of appropriate ship connections

Prepare transfer lines according to prescribed procedures and test the:

- Integrity of isolation valves
- Availability of isolation flanges, spools, drains, spades and U bends

Line up vapour return lines correctly according to transfer route, ensuring that:

- Vapour return lines are lined up to the appropriate plant at the terminal
- Vapour return lines are correctly connected to the ship's manifold
- Ship's personnel confirm that the ship's vapour lines are connected to the shore vapour return line

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to determine product transfer requirements	1.1. Obtain accurate details of the products to be transferred 1.2. Determine the required transfer conditions and equipment 1.3. Check the availability of required equipment on the ship and shore 1.4. Establish the sequence of product transfer
2. Be able to confirm that equipment is operating correctly prior to product transfer operation	2.1. Obtain and check that all tools and equipment that are needed for connection / disconnection operations are available and in workable condition 2.2. Check and confirm before connection, that all telephones / emergency umbilicals have been tested to prescribed procedures 2.3. Prepare and test hoses and loading arms to prescribed procedures, prior to connection 2.4. Confirm that hoses and loading arms are operational and compatible with the product and max line pressure
3. Be able to confirm that systems are operating correctly prior to product transfer operation	3.1. Check and confirm with the ship that it is safe to connect / disconnect systems 3.2. Check and confirm that it is safe to activate and de-activate systems 3.3. Prepare and test vapour return lines to prescribed procedures prior to connection 3.4. Ensure that communications between ship and shore are of an acceptable quality 3.5. Test and confirm that the emergency disconnection system is operational 3.6. Check all emergency stop buttons are correctly set
4. Be able to prepare equipment prior to product transfer operation	4.1. Check that hoses are slung / supported and / or stowed correctly 4.2. Check that hoses / loading arms are connected / disconnected correctly according to prescribed procedures 4.3. Provide and position spill containment and clean-up equipment prior to connection / disconnection of loading arms / hoses 4.4. Confirm the ship's scupper plugs will be kept in place 4.5. Connect all telephones / emergency umbilicals to the correct sockets according to prescribed procedures 4.6. Check and confirm loading arms / hoses on the berth are lined up with the appropriate manifolds on the ship

5. Be able to prepare systems prior to product transfer operation	5.1. Check and confirm shore lines are properly set 5.2. Confirm that all appropriate systems are activated and de-activated 5.3. Prepare and clean transfer lines and systems according to prescribed procedures 5.4. Check the cleanliness of transfer system 5.5. Determine possible level of contamination after cleaning and take appropriate action 5.6. Confirm vapour return lines are operational and line up and connect them 5.7. Ensure safe operation of the vapour return
6. Be able to follow organisational procedures	6.1. Work safely in accordance with operational and environmental requirements 6.2. Communicate all relevant information to the appropriate people 6.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 03K	**HOW TO CONTRIBUTE TO THE TRANSFER OF PRODUCT WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**24**

Unit Overview

This unit addresses the knowledge required to contribute to the transfer of product within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Fill the pipeline with product, this may include filling by flooding and / or pressuring.

Monitor and compare pumping rates at specified intervals, taking account of all of the following:
- Agreed transfer rates – initial, maximum and topping off
- Units of measurement and terminology
- Pumping principles and procedures

Monitor actual transfer, and analyse and compare with agreed cargo transfer plan taking account of all of the following:
- Permitted transfer rates line pressure and temperatures
- Transfer procedures
- Pressure and liquid level limitations

Ensure that equipment / loading systems / cargo and return vapour hoses remain within their safe operational envelope by monitoring at prescribed intervals and taking account of all of the following:
- Principles and operating procedures of equipment
- Equipment capacities and operational limits
- Pressure and temperature limits
- All working areas adequately illuminated

Ensure that ship and terminal ongoing safety checks are completed in accordance with the safety checklist, taking account of all of the following:
- Maintaining the correct checking interval
- Comparing actual results with expected results
- Taking appropriate action if any deficiencies are revealed

Monitor the dispersion of cargo vapour taking account of all of the following:
- Properties and behaviour of vapour
- Formation of vapour dispersal clouds
- Relative density of vapours

- Precautions against the entry of vapours into enclosures on the terminal

Check environmental conditions to include all of the following:

- Measurement of sea swell
- Measurement of tidal heights
- Measurement of wind speeds and directions
- Assessment of lightning risks

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to monitor transfer of product	1.1. Describe how and when to vent air and vapour 1.2. State how to monitor all relevant variables including: • Flow rates during transfer • Line pressure • Cargo conditions incl. temperature • Operation of transfer equipment • Vapour dispersion • Environmental conditions during transfer 1.3. Identify the appropriate action to take to maintain acceptable and safe transfer of product
2. Know how to obtain and confirm relevant information	2.1. State how to obtain and confirm information on flow rates, transfer rates, cargo conditions, atmospheric conditions, the equipment, vapour dispersion and environmental conditions during transfer 2.2. Identify the relevant information that should be communicated
3. Know how to identify the causes and signs of pressure problems	3.1. Identify the signs of pressure problems in pipelines and hoses, including abnormal gauge readings, joint and valve leakage including valve passing and the lifting of pressure relief valves 3.2. Describe the causes of pressure problems in pipelines and hoses, including pumping rates and the influence of ambient temperature
4. Know how to follow organisational policies and procedures	4.1. Describe how to select, use and care for appropriate PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 4.2. Identify and follow organisational policies and procedures

UNIT JO 03C	**CONTRIBUTE TO THE TRANSFER OF PRODUCT WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to the transfer of product within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should:

- Demonstrate on a minimum of two occasions with different products if applicable how to correctly and safely pressure up the pipeline and vent / purge any air / gas
- Explain all types of variants to be aware of during the transfer process e.g. monitor equipment used, dispersion of the cargo vapour, effects due to environmental conditions.

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 03k – How to Contribute to the Transfer of Product within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Fill the pipeline with product, this may include filling by flooding and / or pressuring.

Monitor and compare pumping rates at specified intervals, taking account of all of the following:

- Agreed transfer rates – initial, maximum and topping off
- Units of measurement and terminology
- Pumping principles and procedures

Monitor actual transfer and analyse and compare with agreed cargo transfer plan taking account of all of the following:

- Permitted transfer rates line pressure and temperatures
- Transfer procedures
- Pressure and liquid level limitations

Ensure that equipment / loading systems / cargo and return vapour hoses remain within their safe operational envelope by monitoring at prescribed intervals and taking account of all of the following:

- Principles and operating procedures of equipment
- Equipment capacities and operational limits
- Pressure and temperature limits
- All working areas adequately illuminated

Ensure that ship and terminal ongoing safety checks are completed in accordance with the safety checklist, taking account of all of the following:

- Maintaining the correct checking interval
- Comparing actual results with expected results
- Taking appropriate action if any deficiencies are revealed

Monitor the dispersion of cargo vapour taking account of all of the following:

- Properties and behaviour of vapour
- Formation of vapour dispersal clouds
- Relative density of vapours
- Precautions against the entry of vapours into enclosures on the terminal

Check environmental conditions to include all of the following:

- Measurement of sea swell
- Measurement of tidal heights
- Measurement of wind speeds and directions
- Assessment of lightning risks

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to fill pipeline with product	1.1. Fill the appropriate pipelines 1.2. Vent the air and vapour as appropriate 1.3. Ensure that the test-cocks are checked and fully secured after testing 1.4. Check that the tank valves are reset after flooding
2. Be able to monitor transfer of product	2.1. Obtain and confirm all relevant information 2.2. Monitor all relevant variables 2.3. Ensure the ship's personnel are monitoring the condition of the tanks atmospheres 2.4. Ensure that all relevant safety checks are completed according to prescribed procedures 2.5. Visually check the condition of the water around the transfer operation for any signs of pollution 2.6. Check all environmental conditions during transfer operation and compare with prescribed limits
3. Be able to identify any problems or variations and take the appropriate action within own scope of authority	3.1. Take appropriate action if any variations are unacceptable 3.2. Take appropriate action if measurements and / or trends indicate that there is, or will be, a problem 3.3. Take appropriate action if vapour dispersion appears to be hazardous 3.4. Report results to the relevant personnel, and take appropriate action if signs of pollution are seen
4. Be able to follow organisational policies and procedures	4.1. Work safely in accordance with operational and environmental requirements 4.2. Communicate all relevant information to the appropriate people 4.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility

UNIT JO 04K	**HOW TO CONTRIBUTE TO POST-TRANSFER OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**28**

Unit Overview

This unit addresses the knowledge required to contribute to post-transfer operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Adjust the transfer rates according to transfer plan requirements, whilst taking account of all of the following:

- Environmental conditions
- Feedback from ship personnel
- Feedback from storage facility personnel

Shut down all equipment according to prescribed procedures taking account of all of the following:

- Valve closure procedures
- De-pressuring procedures
- Sump tank management procedures
- Electrical / motor safety check procedures

Ensure that equipment / loading arms / hoses are disconnected / removed safely following prescribed procedures, and take account of all of the following:

- Prescribed safety checks
- Disconnection / blanking procedures
- Correct stowing and securing procedures

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to follow and understand transfer plan shutdown instructions	1.1. Explain the transfer plan shutdown instructions and how to follow them 1.2. Describe how to adjust transfer rates according to shutdown plan 1.3. Identify the relevant information needed to be taken into account before shutdown and how to obtain it 1.4. Outline the prescribed shutdown procedures and why it is important to follow them
2. Know how to follow the prescribed procedures during post-transfer operations	2.1. Describe why it is important to follow all prescribed procedures and how to obtain them 2.2. Describe why it is important to carry out prescribed safety checks 2.3. Outline the de-pressuring procedures to follow 2.4. State the sump tank management procedures to follow 2.5. Outline how to drain and empty hoses / loading arms following prescribed procedures
3. Know how to complete product transfer operation	3.1. State how to shut down all related equipment 3.2. Describe the valve arrangements at the terminal and how to close them 3.3. Outline how to check and confirm with the incoming ship that it is safe to connect / disconnect 3.4. State how to check and confirm with the shore that it is safe to de-activate systems 3.5. Identify the appropriate systems that need to be activated and de-activated 3.6. Describe how to check and confirm that all of the appropriate systems are activated and de-activated 3.7. Identify how to check that ship and shore manifolds are closed and why this is important
4. Know how to re-instate product transfer equipment	4.1. Describe how to disconnect, stow and secure loading arms / hoses according to prescribed procedures 4.2. State how to remove, stow and secure loading access equipment safely according to prescribed procedures 4.3. Outline how to assess the condition of all equipment used in the transfer operation 4.4. Outline how to assess the condition of all equipment used in the transfer operation 4.5. Identify the relevant information that needs to be communicated

UNIT JO 04C	**CONTRIBUTE TO POST-TRANSFER OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to post-transfer operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions with different products if applicable:

- Demonstrate the appropriate method of shutting down the transfer process
- Demonstrate disconnecting method of the transfer hoses / arms
- Demonstrate how to stow equipment after use

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 04k – How to Contribute to Post-Transfer Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Adjust the transfer rates according to transfer plan requirements, whilst taking account of all of the following:

- Environmental conditions
- Feedback from ship personnel
- Feedback from storage facility personnel

Shut down all equipment according to prescribed procedures taking account of all of the following:

- Valve closure procedures
- De-pressuring procedures
- Sump tank management procedures
- Electrical / motor safety check procedures

Ensure that equipment / loading arms / hoses are disconnected / removed safely following prescribed procedures, and take account of all of the following:

- Prescribed safety checks
- Disconnection / blanking procedures
- Correct stowing and securing procedures

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to follow transfer plan shutdown instructions	1.1. Obtain and follow transfer plan shutdown instructions 1.2. Adjust transfer rates according to transfer plan and any other relevant information 1.3. Stop the transfer operation in accordance with instructions, following prescribed procedures
2. Be able to complete product transfer operation	2.1. Check that all appropriate valves are closed and lines are de-pressurised 2.2. Ensure that telephones / emergency umbilicals are disconnected safely, tested to prescribed procedures and stowed correctly 2.3. Check that equipment is shut down according to prescribed procedures 2.4. Drain and empty loading arms / hoses following prescribed procedures 2.5. Check and confirm that ship and shore manifolds are closed
3. Be able to re-instate product transfer equipment	3.1. Disconnect, stow and secure loading arms / hoses according to prescribed procedures 3.2. Remove ship / shore access equipment following prescribed procedures 3.3. Stow and secure the access equipment 3.4. Assess the condition of all equipment used in the transfer operation, and report any damage to appropriate personnel using appropriate documentation
4. Be able to follow organisational policies and procedures	4.1. Work safely in accordance with operational and environmental requirements 4.2. Communicate all relevant information to the appropriate people 4.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 05K	**HOW TO CONTRIBUTE TO MAINTENANCE OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**14**

Unit Overview

This unit addresses the knowledge required to contribute to maintenance operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Mark defective / unserviceable equipment / systems according to prescribed procedures. This could include the following equipment and systems at the Terminal:

- General Safety Equipment e.g. Fire fighting systems, safety showers / eye baths, lifebuoys, life jackets etc.
- Pressure Vacuum (PV) Valves
- Response equipment (i.e. oil spill response kits)
- Pressure gauges
- Valves
- Gauging
- Loading systems (e.g. hoses/loading arm, etc)
- Pumps
- Access equipment
- Mobile equipment
- Mobile towers

Obtain and establish operational requirements taking account of the following:

- Availability of plant and equipment
- Available operating parameters of plant and equipment
- Constraints – personnel, time, etc
- Available corrective action – adjust, request assistance, shut down

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to identify defective equipment and / or systems	1.1. Identify defective equipment 1.2. Describe how to mark the defective equipment according to the prescribed procedures 1.3. State how to report the defective equipment to the appropriate people
2. Know how to bring plant and equipment in and out of operation to meet maintenance requirements	2.1. Identify when it is necessary to stop operations 2.2. Describe the procedure for stopping operations 2.3. Describe the appropriate action to take if the procedure cannot be followed 2.4. State why it is important to follow all prescribed procedures

UNIT JO 05C	**CONTRIBUTE TO MAINTENANCE OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to maintenance operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions:

- Demonstrate how to identify, mark and report defect equipment and systems
- Demonstrate how to handover plant / equipment for and receive back from maintenance

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 05k – How to Contribute to Maintenance Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Mark defective / unserviceable equipment / systems according to prescribed procedures. This could include the following equipment and systems at the Terminal:

- General Safety Equipment e.g. Fire fighting systems, safety showers / eye baths, lifebuoys, life jackets etc.
- Pressure Vacuum (PV) Valves
- Response equipment (i.e. oil spill response kits)
- Pressure gauges
- Valves
- Gauging
- Loading systems (e.g. hoses/loading arm, etc)
- Pumps
- Access equipment
- Mobile equipment
- Mobile towers

Obtain and establish operational requirements taking account of the following:

- Availability of plant and equipment
- Available operating parameters of plant and equipment
- Constraints – personnel, time, etc
- Available corrective action – adjust, request assistance, shut down

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to identify defective equipment and / or systems	1.1. Identify defective equipment 1.2. Mark defective equipment according to the prescribed procedures 1.3. Promptly report the defective equipment to the appropriate people 1.4. If required, stop operations until repaired
2. Be able to bring plant and equipment in and out of operation to meet maintenance requirements	2.1. Obtain and establish operational requirements 2.2. Check that the plant and equipment needed to fulfil operational requirements is available 2.3. Check that the plant and equipment is safe and ready for operation 2.4. Start the operation safely and in accordance with operational procedures
3. Be able to monitor and complete the operation successfully	3.1. Monitor the plant and equipment during the operation 3.2. Complete the operation according to prescribed procedures
4. Be able to follow organisational policies and procedures	4.1. Work safely in accordance with operational and environmental requirements 4.2. Communicate all relevant information to the appropriate people 4.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 06K	**HOW TO CONTRIBUTE TO HEALTH AND SAFETY OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**26**

Unit Overview

This unit addresses the knowledge required to contribute to health and safety operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification. This Health and Safety unit may be achieved through cross referencing of other mandatory units.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Obtain and use all relevant safety equipment / approved tools, to include all of the following: safety showers, eye baths, gas detection equipment, fire fighting equipment.

Identify safety hazards in own area to include:
- Housekeeping
- Trip and fall hazard
- Open access
- Gas / toxic release
- Source of ignition
- Slip hazard

Take appropriate action to include at least one of the following:
- Rectification of hazard
- Prompt reporting
- Discontinuation of work
- Making affected others including contractors, company personnel and visitors aware
- Directing affected others to a safe area

Ensure that all relevant security procedures are followed. This may include:
- Watch keeping
- Security permits
- Swiped access – ID
- Visitor pass
- ISPS

Establish and maintain working relationships in own working environment. This may include:
- Colleagues in the same work group
- Colleagues in other work groups

- Immediate supervisors
- Those for whom the learner has responsibility
- Personnel in other departments
- External contacts / contractors

Ensure all relevant communication methods are used in a clear and efficient manner

- Radio protocol
- Telephone calls
- Shift handover logs
- Record sheets
- Written / typed documentation

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to maintain the safety of self and others	1.1. Identify potential safety hazards and take the appropriate action 1.2. Describe how to keep the work area clean and tidy and why this is important 1.3. State why it is important to keep the access to escape routes and safety equipment clear 1.4. Indicate the position of other relevant areas outside the site 1.5. Identify the types of activity occurring, and possible hazards, in areas adjacent to site 1.6. Outline the safety roles of immediate supervisors, colleagues and safety representatives 1.7. Identify the location and position of emergency exits, muster points and emergency equipment
2. Know how to obtain and use relevant safety equipment	2.1. Describe how to obtain relevant safety equipment and approved tools 2.2. State how to ensure that the safety equipment and approved tools are fit for purpose 2.3. Identify the appropriate manual handling methods to use 2.4. Outline the reasons for the use of safety equipment, devices and protective clothing
3. Know how to maintain the security of the area of operation	3.1. State how to obtain security procedure information 3.2. Describe the security procedures to be followed 3.3. Identify the methods that should be used to contact security personnel 3.4. State the prescribed intervals when the security checks are undertaken 3.5. Describe why it is important for checks to be made at regular intervals 3.6. Outline how to ensure that only authorised personnel are allowed access to the operation 3.7. State why it is important to be authorised, and who to obtain authorisation from

4. Know how to establish and maintain effective working relationships	4.1. Identify who the appropriate / relevant personnel are and how to treat them 4.2. Explain what reasonable requests from relevant others are 4.3. Describe the methods of handling and resolving difficulties in working relationships
5. Know how to identify relevant information	5.1. Identify relevant information that should be communicated 5.2. State what is considered essential information concerning the daily work schedule
6. Know how to follow organisational policies and procedures	6.1. Identify the emergency procedures for the site 6.2. Indicate the appropriate responses to fire and gas alarms on adjacent sites 6.3. State the procedures for obtaining medical assistance 6.4. Describe own responsibilities and duties under current environmental legislation

UNIT JO 06C	**CONTRIBUTE TO HEALTH AND SAFETY OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**3**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to health and safety operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions:

- Demonstrate manual handling techniques
- Demonstrate evidence of identifying a safety hazard including appropriate action taken
- Demonstrate an appropriate method to communicate a health / safety issue to others

Assessment Guidance

- The use of simulation is acceptable in the assessment of this unit.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 06k – How to Contribute to Health and Safety Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Obtain and use all relevant safety equipment / approved tools, to include all of the following: safety showers, eye baths, gas detection equipment, fire fighting equipment.

Identify safety hazards in own area to include:

- Housekeeping
- Trip and fall hazard
- Open access
- Gas / toxic release
- Source of ignition
- Slip hazard

Take appropriate action to include at least one of the following:

- Rectification of hazard
- Prompt reporting
- Discontinuation of work
- Making affected others including contractors, company personnel and visitors aware
- Directing affected others to a safe area

Ensure that all relevant security procedures are followed. This may include:

- Watch keeping
- Security permits
- Swiped access – ID
- Visitor pass

- ISPS

Establish and maintain working relationships in own working environment. This may include:

- Colleagues in the same work group
- Colleagues in other work groups
- Immediate supervisors
- Those for whom the learner has responsibility
- Personnel in other departments
- External contacts / contractors

Ensure all relevant communication methods are used in a clear and efficient manner:

- Radio protocol
- Telephone calls
- Shift handover logs
- Record sheets
- Written / typed documentation

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to maintain the safety of self and others	1.1. Identify safety hazards and take the appropriate action 1.2. Ensure that safe access to and egress from working area is maintained at all times 1.3. Keep working area clean and tidy at all times in accordance with requirements 1.4. Keep clear all escape routes and access to emergency and safety equipment 1.5. Ensure that only authorised people are allowed access to the work area
2. Be able to obtain and use relevant safety equipment	2.1. Obtain relevant safety equipment and approved tools 2.2. Use all relevant safety equipment and approved tools 2.3. Use the appropriate manual handling methods 2.4. Return safety equipment and approved tools to designated areas after use and report any defects
3. Be able to maintain the security of the area of operation	3.1. Obtain security procedure information 3.2. Ensure that correct security procedures are followed 3.3. Ensure that appropriate method of contact is used with security personnel 3.4. Check security at prescribed intervals 3.5. Use appropriate documentation and observe confidentiality
4. Be able to establish and maintain effective working relationships	4.1. Treat relevant others in a manner which promotes and maintains goodwill 4.2. Promptly and willingly meet reasonable requests from appropriate personnel 4.3. Provide clear, accurate and prompt information regarding daily work schedules to relevant others 4.4. Support and offer help to relevant others when requested
5. Be able to follow organisational policies and procedures	5.1. Work safely in accordance with operational and environmental requirements 5.2. Communicate all relevant information to the appropriate people 5.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 07K	**HOW TO CONTRIBUTE TO EMERGENCY OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**4**
GUIDED LEARNING HOURS	**38**

Unit Overview

This unit addresses the knowledge required to contribute to emergency operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Identify and confirm the location of key personnel.

Follow emergency plans and procedures to cover all of the following:

- Safety
- Fire
- Occupational health
- Pollution control
- Ship's breakout from berth
- Security
- Liquid / Gas / toxic release from ship or shore

Verify the nature, location and scope of the incident. Incident to include at least one of the following:

- Fire
- Flood
- Uncontrolled release / spillage of product(s)
- Explosion
- Hazardous vapours
- Discovery of suspect package / bomb threat
- Discovery of injured person
- Accident involving person / equipment
- Major services failure
- Liquid / Gas / toxic release from ship or shore

Raise the appropriate alarm by the appropriate method to include all of the following:

- Mechanical / electrical means
- Notifying someone else
- Verbal
- Audio
- Visual

Follow appropriate site emergency plans, environmental procedures, plant emergency procedures in the event of one of the following situations taking place:

- Flood
- Uncontrolled release / spillage of product(s)
- Explosion
- Hazardous vapours
- Discovery of suspect package / bomb threat
- Discovery of injured person
- Accident involving person / equipment
- Major services failure

Identify products, materials and / or equipment that are hazardous to the environment. This may include:

- Air contamination
- Water contamination
- Ground contamination

Follow prescribed procedures for dealing with products, materials and / or equipment. To include prescribed procedures covering all of the following:

- Up to date legal requirements
- Environmental Protection Act
- Specific environmental procedures
- Workplace instructions
- Supplier's instructions
- Manufacturer's instructions

Learning Outcome and Assessment Criteria

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Know how to establish and agree normal and emergency communications	1.1. Identify the method of communication to be used for both normal and emergency use between ship and shore 1.2. Describe how to establish and test back-up communication procedures between ship and shore 1.3. Identify signals to be used between ship and shore 1.4. Identify ship and shore key personnel and their location 1.5. Outline how to follow ship and shore emergency plans and procedures as defined and agreed
2. Know how to report incidents, hazardous conditions and emergencies	2.1. Demonstrate how to verify the nature, location and scope of incident 2.2. Identify the range of incidents that may occur in own working environment 2.3. Describe how to raise the alarm by the appropriate method 2.4. Report the incident to the appropriate people in accordance with site reporting procedures 2.5. Identify the emergency procedures for the site and the plant layout in own working area
3. Know how to assess and deal with the incident within own scope of authority	3.1. Describe how to assess the incident 3.2. State how to access, interpret and implement site emergency plans, environmental procedures, and plant emergency procedures 3.3. Identify the correct procedures that need to be followed 3.4. Outline how to access and use specified emergency equipment 3.5. Demonstrate the appropriate action to take and why it should be taken promptly
4. Know how to minimise incidents, hazardous conditions and emergencies within own scope of authority	4.1. State how to minimise the situation and, when appropriate, minimise waste and / or loss 4.2. Describe how changing conditions may affect actions undertaken 4.3. Outline the information that needs to be provided to the appropriate people 4.4. Indicate the reasons for use of safety equipment, devices and protective clothing 4.5. Identify the safety roles of immediate supervisors, colleagues and safety representatives 4.6. Identify the location and position of emergency exits, muster points and emergency equipment 4.7. Demonstrate the appropriate responses to fire and gas alarms on adjacent site 4.8. State the potential hazards associated with work procedures and the safety precautions required

5. Identify environmental hazards and how to deal with them	5.1. Identify any product, material and / or equipment for dealing with any part of own job role which could cause harm to the environment and how to obtain the procedures for dealing with it 5.2. Describe own job role and the environmental hazards which may occur in own job role 5.3. State why it is important to check that the requirements are up to date for own job role 5.4. Describe how to control the environmental hazards within own scope of responsibility 5.5. Identify what environmental hazards present high risks 5.6. Identify the appropriate / relevant personnel and why it is important to report environmental hazards promptly 5.7. Indicate the relevant information that should be communicated
6. Know how to ensure effective environmental protection is in place	6.1. Identify the environmental protection procedures which are in place and where to obtain spillage response emergency support 6.2. Describe the potential environmental hazards associated with the particular working area 6.3. Demonstrate the position of other relevant areas outside the site 6.4. Outline the types of activity occurring, and possible environmental hazards, in areas adjacent to site 6.5. Indicate the potential environmental hazards, such as use of products hazardous to the environment, disposal of waste hazardous to the environment, emission of gases and vapours
7. Know how to follow organisational policies and procedures	7.1. Identify and use the appropriate PPE 7.2. Describe the procedures for obtaining medical assistance and spillage response support 7.3. State own duties and responsibilities under current environmental legislation

UNIT JO 07C	**CONTRIBUTE TO EMERGENCY OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**6**

Unit Overview

This unit addresses the skills required to contribute to emergency operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The nature of this unit does not easily lend itself to planned observations as the main method of evidence collected.

The learner should on a minimum of two occasions for different emergencies:

- Be able to identify appropriate personnel, effectively report / raise the alarm for the incident / emergency
- Be able to identify appropriate means within scope of authority how to minimise an incident / emergency / environmental impact
- Be able to demonstrate how to locate and use emergency procedures within own work area

Assessment Guidance

- The use of simulation is acceptable in the assessment of this unit.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 07k – How to Contribute to Emergency Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Identify and confirm the location of key personnel.

Follow emergency plans and procedures to cover all of the following:

- Safety
- Fire
- Occupational health
- Pollution control
- Ship's breakout from berth
- Security
- Gas / toxic release

Verify the nature, location and scope of the incident. Incident to include at least one of the following:

- Fire
- Flood
- Uncontrolled release / spillage of product(s)
- Explosion
- Hazardous vapours
- Discovery of suspect package

- Discovery of injured person
- Accident involving person / equipment
- Major services failure
- Gas / toxic release

Raise the appropriate alarm by the appropriate method to include all of the following:

- Mechanical / electrical means
- Notifying someone else
- Verbal
- Audio
- Visual

Follow appropriate site emergency plans, environmental procedures, plant emergency procedures in the event of one of the following situations taking place:

- Flood
- Uncontrolled release / spillage of product(s)
- Explosion
- Hazardous vapours
- Discovery of suspect package
- Discovery of injured person
- Accident involving person / equipment
- Major services failure

Identify products, materials and / or equipment that are hazardous to the environment. This may include:

- Air contamination
- Water contamination
- Ground contamination

Follow prescribed procedures for dealing with products, materials and / or equipment. To include prescribed procedures covering all of the following:

- Up to date legal requirements
- Environmental Protection Act
- Specific environmental procedures
- Workplace instructions
- Supplier's instructions
- Manufacturer’s instructions

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to establish and agree normal and emergency communications	1.1. Confirm the method of communication to be used for both normal and emergency use between ship and shore 1.2. Establish and test back-up communication procedures between ship and shore 1.3. Confirm signals to be used between ship and shore 1.4. Identify ship and shore key personnel and confirm their location 1.5. Follow ship and shore's emergency plans and procedures
2. Be able to report incidents, hazardous conditions and emergencies	2.1. Verify the nature, location and scope of incident 2.2. Raise the appropriate alarms 2.3. Report the incident to the appropriate people in accordance with site reporting procedures
3. Be able to minimise incidents, hazardous conditions and emergencies within own scope of authority	3.1. Follow appropriate procedures after the situation has been assessed 3.2. Take the correct actions, in accordance with procedures, to deal with the incident 3.3. Minimise the incident, hazard or emergency 3.4. Where appropriate, minimise waste and loss 3.5. Act promptly, either individually and / or with other people 3.6. Modify actions in response to changing conditions
4. Be able to ensure effective environmental protection is in place	4.1. Identify any product, material and / or equipment used in any part of own job role which could cause harm to the environment 4.2. Obtain and follow prescribed procedures for dealing with any product, material and / or equipment which could cause harm to the environment 4.3. Ensure that the environmental hazards within own scope of responsibility are controlled 4.4. Report promptly any hazards which present high risks to the relevant personnel using the appropriate methods
5. Be able to follow organisational policies and procedures	5.1. Work safely in accordance with operational and environmental requirements 5.2. Obtain and use the appropriate PPE 5.3. Communicate all relevant information to the appropriate people 5.4. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

OPTIONAL UNITS

UNIT JO 08K	**HOW TO CONTRIBUTE TO THE PRE-ARRIVAL OF SHIP WITHIN JETTY OPERATIONS**
LEVEL	**3**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**24**

Unit Overview

This unit addresses the knowledge required to contribute to the pre-arrival of ship within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Gather all relevant information to include:
- Deadweight / displacement
- Length overall, air draft and beam
- Distance between bow and centre manifolds
- Present draught
- Maximum draught
- Manifold heights above waterline throughout operation

Liaise with incoming pilot concerning the Terminal's criteria on all of the following:
- Times
- Tides
- Currents
- Weather conditions
- Preferred berthing method
- Manifold heights above waterline throughout operation

Liaise with pilot authority both within and outside normal pilot operating times.

Identify berthing / unberthing requirements to include all of the following:
- Tugs
- Mooring boats
- Manpower
- Mooring equipment
- Services / power

Inspect, according to procedures, all of the following berthing / unberthing equipment:

- Dolphins
- Winches
- Capstans
- Mooring hooks
- Shore mooring lines

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to obtain pre-arrival information from ship	1.1. State why it is important to gather accurate information 1.2. Identify the relevant information to gather 1.3. Identify the different types of ships that may use the terminal 1.4. Describe why it is important to verify that the pilot will be available for inward / outward passage 1.5. State the consequences of using incorrect or incomplete information 1.6. Outline the terminal's criteria concerning times, tides and weather conditions 1.7. Demonstrate how to liaise with the pilot both within and outside of normal operating times 1.8. Describe the risks and hazards associated with using incorrect information
2. Know how to ensure availability of equipment, services and personnel for berthing / un-berthing operations	2.1. Identify berthing and un-berthing requirements 2.2. Describe how to check availability of equipment, services and relevant others 2.3. Outline the inspection methods to use according to standard operating procedure 2.4. State how to inspect equipment prior to berthing / un-berthing operations 2.5. Demonstrate why it is important to obtain the correct information

UNIT JO 08C	**CONTRIBUTE TO THE PRE-ARRIVAL OF SHIP WITHIN JETTY OPERATIONS**
LEVEL	**3**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**4**

Unit Overview

This unit addresses the skills required to contribute to the pre-arrival of ship within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions for different ships and products if applicable:

- Demonstrate how to gather, check and record pre arrival information
- Be able to identify the personnel / identify, check and inspect the equipment, required to conduct the berthing operation

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 08k – How to Contribute to the Pre-Arrival of Ship within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Gather all relevant information to include:

- Deadweight / displacement
- Length overall, air draft and beam
- Distance between bow and centre manifolds
- Present draught
- Maximum draught
- Manifold heights above waterline throughout operation

Liaise with incoming pilot concerning the Terminal's criteria on all of the following:

- Times
- Tides
- Currents
- Weather conditions
- Preferred berthing method
- Manifold heights above waterline throughout operation

Liaise with pilot authority both within and outside normal pilot operating times.

Identify berthing / unberthing requirements to include all of the following:

- Tugs
- Mooring boats
- Manpower

- Mooring equipment
- Services / power

Inspect, according to procedures, all of the following berthing / unberthing equipment:

- Dolphins
- Winches
- Capstans
- Mooring hooks
- Shore mooring lines

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to obtain pre-arrival information from ship	1.1. Establish estimated arrival and departure times of incoming ship 1.2. Ensure that incoming ship is aware of the sites preferred method of berthing 1.3. Use correct method of communication to obtain all relevant information 1.4. Gather all the relevant information concerning the incoming ship 1.5. Check that the information is correct 1.6. Record the information using the appropriate documentation
2. Be able to ensure availability of equipment, services and personnel for berthing / un-berthing operations	2.1. Identify the equipment, services and personnel that will be required for berthing / un-berthing operations 2.2. Check that the equipment, services and personnel will be available for berthing / un-berthing operations 2.3. Inspect equipment according to standard operating procedures
3. Be able to follow organisational policies and procedures	3.1. Work safely in accordance with operational and environmental requirements 3.2. Communicate all relevant information to the appropriate people 3.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 09K	**HOW TO CONTRIBUTE TO PRE-MOORING OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**3**
GUIDED LEARNING HOURS	**28**

Unit Overview

This unit addresses the knowledge required to contribute to pre-mooring operations within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Obtain relevant information from ship to include all of the following:
- Ship freeboard
- Bow to centre manifold
- Manifold arrangement

Select the correct equipment for the mooring scheme taking account of all of the following:
- Relevant external factors
- Relevant environmental factors
- Factors affecting the restraint capacity of moorings
- Springs, head, stern and breast lines

Inspect and assess the condition of the mooring equipment at regular intervals according to prescribed procedures.

Recognise that ship's mooring equipment is correctly applied according to agreed mooring scheme, taking account of all of the following factors:
- Tensions
- Winch forces
- External factors to include, tide, weather, waves, passing ships
- Brake holding power

Meet the prescribed mooring plan, following principles of safe mooring, taking into account all of the following factors:
- Angle of rope above horizontal
- Angle of rope from fore / aft axis of ship
- Length of rope
- Unacceptable use of mixed mooring

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to obtain pre-mooring information	1.1. Identify the relevant information to obtain 1.2. State why it is important to obtain the correct information 1.3. Define the units of measurement and terminology to use 1.4. Outline the methods used to obtain the dimensions of ship
2. Know the underlying principles of pre-mooring operations	2.1. Describe the types of connecting equipment that should be used 2.2. State the appropriate action to take when the ship is out of prescribed parameters 2.3. Identify the principles of safe mooring 2.4. Outline the effects that external factors have on mooring 2.5. State the factors that can affect the use of mooring equipment
3. Know how to identify and assess the equipment	3.1. Identify the correct mooring equipment 3.2. Describe how to assess the condition of mooring equipment 3.3. State why it is important to assess the condition of the mooring equipment
4. Know how to ensure correct operation of mooring equipment	4.1. Describe how to identify defective / sub-standard equipment 4.2. Explain how to complete pre-use safety checks 4.3. Describe how to recognise that the ship's mooring equipment is correctly deployed 4.4. Demonstrate how to monitor ship's mooring equipment 4.5. State how to ensure that mooring equipment is operated within agreed parameters
5. Know how to understand mooring patterns and plans	5.1. State how to interpret information in mooring plans and schemes 5.2. Describe how to ensure that the mooring pattern meets the prescribed mooring plan 5.3. Identify the limitations of mooring patterns

UNIT JO 09C	**CONTRIBUTE TO PRE-MOORING OPERATIONS WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**4**

Unit Overview

This unit addresses the skills required to contribute to pre-mooring operations within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions with different sized ships if applicable:

- Demonstrate how to conduct pre use safety checks on mooring equipment
- Demonstrate ability to operate mooring equipment
- Demonstrate the appropriate action to be taken if the ship moves out of the prescribed parameters

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 09k – How to Contribute to Pre-Mooring Operations within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Obtain relevant information from ship to include all of the following:

- Ship freeboard
- Bow to centre manifold
- Manifold arrangement

Select the correct equipment for the mooring scheme taking account of all of the following:

- Relevant external factors
- Relevant environmental factors
- Factors affecting the restraint capacity of moorings
- Springs, head, stern and breast lines

Inspect and assess the condition of the mooring equipment at regular intervals according to prescribed procedures.

Recognise that ship's mooring equipment is correctly applied according to agreed mooring scheme, taking account of all of the following factors:

- Tensions
- Winch forces
- External factors to include, tide, weather, waves, passing ships
- Brake holding power

Meet the prescribed mooring plan, following principles of safe mooring, taking into account all of the following factors:

- Angle of rope above horizontal
- Angle of rope from fore / aft axis of ship
- Length of rope
- Unacceptable use of mixed mooring

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to obtain pre-mooring information	1.1. Obtain relevant information 1.2. Ensure that the ship is positioned within prescribed parameters
2. Be able to identify and assess the equipment	2.1. Ensure that cargo transfer equipment and connections can be made when ship is correctly positioned 2.2. Select the correct equipment for the mooring scheme 2.3. Assess the condition of all equipment to be used in the mooring scheme at regular intervals 2.4. Inspect mooring equipment according to standard operating procedures 2.5. Identify any defective or sub-standard equipment
3. Be able to ensure correct operation of mooring equipment	3.1. Complete pre-use safety checks before using mooring equipment 3.2. Operate mooring equipment correctly according to agreed mooring scheme 3.3. Ensure ship's mooring equipment operates within agreed parameters 3.4. Monitor ship's mooring equipment during mooring operation 3.5. Take the appropriate action if the ship moves out of prescribed parameters
4. Be able to follow organisational policies and procedures	4.1. Work safely in accordance with operational and environmental requirements 4.2. Communicate all relevant information to the appropriate people 4.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 10K	**HOW TO TAKE SAMPLES WITHIN JETTY OPERATIONS**
LEVEL	**1**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**14**

Unit Overview

This unit addresses the knowledge required to take samples within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

- Prepare for and take samples within own working environment. These may include: bottom, lower, middle, upper, composite, running and skimming.

- Take samples from own working environment. Sample sources may include: tanks, containers, pipelines and ship tanks.

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know the different types of equipment used when taking samples	1.1. State the importance of well-maintained equipment 1.2. Identify the different types of container used in taking samples 1.3. Explain the specific uses of sampling equipment
2. Know how to take samples correctly	2.1. Describe the appropriate specified methods for taking samples 2.2. Explain the potential hazards of taking samples 2.3. Describe how to identify, record and label samples correctly
3. Know how to select and use appropriate PPE	3.1. Describe how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators

UNIT JO 10C	**TAKE SAMPLES WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**1**
GUIDED LEARNING HOURS	**4**

Unit Overview

This unit addresses the skills required to take samples within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions with different samples if applicable:

- Demonstrate how to identify correct container type, its cleanliness and label data requirements
- Demonstrate how to correctly wear any additional PPE and use any additional equipment required
- Demonstrate the appropriate sampling techniques that minimises the potential hazards and maintains the sample integrity

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 10k – How to Take Samples within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

- Prepare for and take samples within own working environment. These may include: bottom, lower, middle, upper, composite, running and skimming.

- Take samples from own working environment. Sample sources may include: tanks, containers, pipelines and ship tanks.

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to prepare to take samples	1.1. Obtain containers appropriate for the sample material 1.2. Identify the location of the nearest safety equipment
2. Be able to take samples correctly	2.1. Take samples using the appropriate specified method 2.2. Minimise the potential hazards according to the nature of the sample 2.3. Check that the sample integrity is maintained 2.4. Ensure that the sample is fully identified by recording and labelling and promptly taken to the designated point
3. Be able to follow organisational policies and procedures	3.1. Work safely in accordance with operational and environmental requirements 3.2. Communicate all relevant information to the appropriate people 3.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person

UNIT JO 11K	**HOW TO TAKE MEASUREMENTS AND PERFORM CALCULATIONS OF PRODUCT WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**1**
GUIDED LEARNING HOURS	**10**

Unit Overview

This unit addresses the knowledge required to take measurements and perform calculations of product within jetty operations.

Assessment Guidance and Evidence Requirements

The learner should provide evidence to meet all the required knowledge and understanding within this unit. This could be provided through different types of evidence and assessment methods, for example learner statements, questioning and professional discussion which should be recorded for verification.

- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Take measurements and perform calculations using direct and meter measurement. Physical quantities may include:

- Product quantities
- Pressure
- Ullage
- Product density
- Product temperature
- Vapour space content

Context of measurements may include:

- Between transfers
- During transfers (receipt of product at tank)
- For stock records
- For client or other agency (for HMC&E records)

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Know how to prepare equipment	1.1. State how to ensure that the measurement equipment is fit for purpose both before and after measurement
2. Know how to carry out measurements and calculations	2.1. Describe how to perform the relevant calculations 2.2. Outline how to recognise and deal with unexpected results
3. Know how to follow organisational policies and procedures	3.1. Describe how to select, use and care for appropriate PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 3.2. Identify and follow organisational policies and procedures

UNIT JO 11C	**TAKE MEASUREMENTS AND PERFORM CALCULATIONS OF PRODUCT WITHIN JETTY OPERATIONS**
LEVEL	**2**
CREDIT VALUE	**2**
GUIDED LEARNING HOURS	**4**

Unit Overview

This unit addresses the skills required to take measurements and perform calculations of product within jetty operations.

Assessment Guidance and Evidence Requirements

Evidence Requirements

The learner should on a minimum of two occasions with different products if applicable:

- Demonstrate how to check that the measurement equipment is fit for purpose
- Demonstrate a measurement and calculation task while maintaining the integrity of the product

Assessment Guidance

- The use of simulation is not acceptable in the assessment of this unit.
- Workplace performance evidence is mandatory.
- This unit is subject to the requirements set out in the Cogent Assessment Strategy.
- This unit should not be taken prior to taking "Unit JO 11k – How to Take Measurements and Perform Calculations of Product within Jetty Operations."
- The assumption is made that the learner undertaking this unit will be an operator with basic experience or an apprentice seeking progression.

Information on use of Assessment Context

During this work the learner must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO THE LEARNER.

Within the limits of their own responsibility the learner must show that they can:

Take measurements and perform calculations using direct and meter measurement. Physical quantities may include:

- Product quantities
- Pressure
- Ullage
- Product density
- Product temperature
- Vapour space content

Context of measurements may include:

- Between transfers
- During transfers (receipt of product at tank)
- For stock records
- For client or other agency (for HMC&E records)

Learning Outcome and Assessment Criteria

Learning outcomes **The learner will:**	**Assessment criteria** **The learner can:**
1. Be able to prepare to take measurements and perform calculations	1.1. Ensure that the measurement equipment is fit for purpose before and after use 1.2. Obtain and use the correct PPE 1.3. Maintain the integrity of the product and environmental conditions throughout
2. Be able to take measurements and perform calculations correctly	2.1. Take and record measurements 2.2. Reinstate source conditions 2.3. Perform all calculations and report any unexpected results
3. Be able to follow organisational policies and procedures	3.1. Work safely in accordance with operational and environmental requirements 3.2. Communicate all relevant information to the appropriate people 3.3. Deal promptly and effectively with problems that are own responsibility, and report those that cannot be solved and / or are not own responsibility to the relevant person