

# Level 2 and 3 Diploma in Jetty Operations 0640-21-31

March 2014 Version 2.1



## Qualification at a glance

<b>Subject area</b>	<b>Process Engineering</b>
<b>City &amp; Guilds number</b>	0640
<b>Age group approved</b>	16+
<b>Assessment</b>	Portfolio of evidence
<b>Support materials</b>	Qualification handbook
<b>Registration and certification</b>	Consult the Walled Garden/Online Catalogue for last dates

<b>Title and level</b>	<b>City &amp; Guilds number</b>	<b>Accreditation number</b>
Level 2 Diploma in Jetty Operations	0640-21	600/5803/1
Level 3 Diploma in Jetty Operations	0640-31	600/5819/5

<b>Version and date</b>	<b>Change detail</b>	<b>Section</b>
2.0 March 2014	Correct content within Unit 103. Amend AC 3.2 in Unit 237 Amend AC 3.4 in Unit 239 Amend AC1.1 in Unit 242.	<b>Units</b>
2.1 March 2014	Amend unit 236 AC 5.5 in unit 236	<b>Units</b>



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# 1 Introduction

This document tells you what you need to do to deliver the qualifications:

<b>Area</b>	<b>Description</b>
Who are the qualifications for?	<p>These qualifications are for candidates who work or want to work in Jetty Operations within the Oil and Gas sector, particularly those involved in tanker berthing, loading and unloading.</p> <p>The exact nature of the work undertaken by the Jetty Operator will depend on the size of the employing organisation. However, it will almost certainly involve:</p> <ul style="list-style-type: none"><li>• Extensive knowledge of a range of jetty operations</li><li>• Carrying out jetty operations, including ship to shore transfer and reports on and investigates deviation from normal operations and equipment as directed</li><li>• Starting up and shutting down jetty operations and equipment as directed</li></ul>
What do the qualifications cover?	<p>They allow candidates to learn, develop and practise the skills required for employment and/or career progression in Jetty Operations.</p> <p>At Level 2, learners contribute to a variety of maintenance operations, product transfer, mooring operations and other related activities.</p> <p>At Level 3, learners carry out and take greater responsibility for these activities.</p>

## Structure

Learners must achieve a minimum of **43 credits** to achieve the **Level 2 Diploma in Jetty Qualification (0640-21)**:

- 40 credits from mandatory units, and
- a minimum of 3 credits must be achieved from the optional units. Knowledge (titles beginning 'how to') and competence units must be taken in combination.

### Level 2 Diploma in Jetty Operations

Unit accreditation number	City & Guilds unit number	Unit title	Credit value
<b>Mandatory</b>			
D/601/1326	235	Contribute to the mooring operations within jetty operations	2
H/601/1327	236	How to contribute to the mooring operations within jetty operations	2
T/601/1333	237	Contribute to the preparations for the product transfer within jetty operations	4
J/601/1336	238	How to contribute to the preparations for the product transfer within jetty operations	4
R/601/1338	239	Contribute to the transfer of product within jetty operations	3
Y/601/1342	240	How to contribute to the transfer of product within jetty operations	3
D/601/1360	241	How to contribute to health and safety operations within jetty operations	3
H/601/1361	242	Contribute to emergency operations within jetty operations	3
M/601/1363	243	How to contribute to emergency operations within jetty operations	4
M/601/1346	244	Contribute to post-transfer operations within jetty operations	2
T/601/1347	245	How to contribute to post-transfer operations within jetty operations	3

F/601/1352	246	How to contribute to maintenance operations within jetty operations	2
T/601/1350	247	Contribute to maintenance operations within jetty operations	2
L/601/1354	367	Contribute to health and safety operations within jetty operations	3
<b>Optional</b>			
L/601/1385	103	How to take samples within jetty operations	2
J/601/1370	248	Contribute to pre-mooring operations within jetty operations	2
Y/601/1373	249	How to contribute to pre-mooring operations within jetty operations	3
F/601/1383	250	Take samples within jetty operations	1
Y/601/1387	251	Take measurements and perform calculations of product within jetty operations	2
H/601/1389	252	How to take measurements and perform calculations of product within jetty operations	1
J/601/1367	673	How to contribute to the pre-arrival of ship within jetty operations	3
A/601/1365	674	Contribute to the pre-arrival of ship within jetty operations	2

Learners must achieve a minimum of **46 credits** to achieve the **Level 3 Diploma in Jetty Qualification (0640-31)**:

- 42 credits from mandatory units, and
- a minimum of 4 credits must be achieved from the optional units. Knowledge (titles beginning 'how to') and competence units must be taken in combination.

### **Level 3 Diploma in Jetty Operations**

<b>Mandatory</b>			
F/601/1352	246	How to contribute to maintenance operations within jetty operations	2
T/601/1350	247	Contribute to maintenance operations within jetty operations	2
L/601/3587	368	Carry out pre-arrival operations within jetty operations	4
R/601/3588	369	How to carry out pre-arrival operations within jetty operations	5
Y/601/3589	370	Carry out the preparation for product transfer within jetty operations	3
L/601/3590	371	How to carry out the preparation for product transfer within jetty operations	3
R/601/3591	372	Carry out the transfer of product within jetty operations	3
Y/601/3592	373	How to carry out the transfer of product within jetty operations	3
D/601/3593	374	Contribute to health, safety and security operations within jetty operations	3
H/601/3594	375	How to contribute to health, safety and security operations within jetty operations	5
K/601/3595	376	Carry out emergency operations within jetty operations	4
M/601/3596	377	How to carry out emergency operations within jetty operations	5
<b>Optional</b>			
T/601/3597	378	Carry out mooring operations within jetty operations	3
A/601/3598	379	How to carry out mooring operations within jetty operations	4
F/601/3599	380	Monitor inert gas systems, pressures and crude oil washing operation within jetty operations	2
M/601/3601	381	How to monitor inert gas systems, pressures and crude oil washing operation within jetty operations	3
A/601/3603	382	Carry out maintenance operations within jetty operations	3
F/601/3604	383	How to carry out maintenance operations within jetty operations	4
L/601/3606	384	Lead the work activity within jetty operations	2
R/601/3607	385	How to lead the work activity within jetty operations	2





## 2 Centre requirements

### Approval

#### Existing Centres

No fast track approval is available for this qualification. Existing centres who wish to offer this qualification must use the standard Qualification Approval Process.

#### Centres not already offering City & Guilds qualifications

To offer these qualifications, new centres will need to gain both centre and qualification approval. Please refer to the Centre Manual - Supporting Customer Excellence for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

### Resource requirements

#### Physical resources and site agreements

The assessment methods used to assess the occupational competence of the candidates should be valid, reliable, fair and applicable to real work in the normal day to day working environment.

#### Centre staffing

Staff delivering this qualification must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area for which they are delivering training and/or have experience of providing training. This knowledge must be above or to the same level as the training being delivered
- hold the Level 3 Diploma in Jetty Operations, or an equivalent qualification
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal quality assurer, but cannot quality assure their own assessments.

#### Assessors and internal quality assurers

Level 3 TAQA Award in Assessing Competence in the Work Environment or Assessor/Verifier (A/V) units are valued as qualifications for centre staff, but they are not currently a requirement for the qualifications

### **Continuing professional development (CPD)**

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

### **Candidate entry requirements**

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualifications successfully.

### **Age restrictions**

City & Guilds cannot accept any registrations for candidates under 16 as these qualifications are not approved for under 16s.



## 3 Delivering the qualification

### Initial assessment and induction

An initial assessment of each candidate should be made before the start of their programme to identify:

- if the candidate has any specific training needs
- support and guidance they may need when working towards their qualification
- any units they have already completed, or credit they have accumulated which is relevant to the qualification
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification, their responsibilities as a candidate, and the responsibilities of the centre. This information can be recorded on a learning contract.

### Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems, including our own, **Learning Assistant**, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: [www.cityandguilds.com/eportfolios](http://www.cityandguilds.com/eportfolios).

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. *Recording forms* are available on the City & Guilds website.

Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the Qualification Consultant, before they are used by candidates and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.



## 4 Assessment

### Assessment of the qualification

Candidates must:

- have a completed portfolio of evidence for each unit.

### Assessment strategy

The assessment strategy for these qualifications has been set by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers.

**Please note:** simulation is **not** always suitable for the qualifications within this sector. The Assessment Strategy defines where evidence from stimulation is acceptable, and in which contexts.

Please refer to the **latest** version of Cogent's Assessment Strategy. The August 2009 version can be found on the **City & Guilds website**. (This version is the most recent version at August 2012).

Please contact **Cogent** for further detail, information and/or latest version:

Cogent SSC Limited  
Unit 5  
Mandarin Court  
Centre Park  
Warrington  
WA1 1GG  
Tel: 01925 515200  
Fax: 01925 515240

### Time constraints

The following must be applied to the assessment of this qualification:

- Candidates must finish their assessment within six months
- Assignments should take no longer than 8 hours. If they do, centres should consider why this is, and make sure that they are not trying to gather too much evidence.

### Recognition of prior learning (RPL)

RPL is allowed and is not sector specific.



## 5 Units

### Availability of units

### Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number
- title
- level
- credit value
- unit aim

## Unit 103

## How to take samples within jetty operations

<b>UAN:</b>	<b>L/601/1385</b>
<b>Level:</b>	Level 1
<b>Credit value:</b>	2
<b>GLH:</b>	14
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know the different types of equipment used when taking samples.
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to take samples correctly.
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to select and use appropriate PPE.
<b>Assessment criteria</b>
The learner can: 3.1 describe how to select, use and care for ppe, including sight / hearing protection, gloves, footwear, hard hats and respirators.

# Unit 103            How to take samples within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 235

## Contribute to the mooring operations within jetty operations

<b>UAN:</b>	<b>D/601/1326</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	8
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to check and prepare mooring equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to ensure that safe ship / shore access is maintained
<b>Assessment criteria</b>
The learner can: 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 the ship / shore access is adequately tended and free to move 2.4 ensure that the space on berth is adequate for the ship's gangway 2.5 when required, deploy the gangway according to prescribed procedures 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.



<b>Learning outcome</b>
The learner will: 3. Be able to implement ship / shore safety checklist
<b>Assessment criteria</b>
The learner can: 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 235                      **Contribute to the mooring operations within jetty operations**

## Supporting information

### **Guidance**

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to the Mooring Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 to include:
  - nets and bulwark ladders
  - lifebuoy with light and line

- 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.

## Unit 236

## How to contribute to the mooring operations within jetty operations

<b>UAN:</b>	<b>H/601/1327</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	20
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to check and prepare mooring equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know the integrity of the mooring system
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to ensure that safe ship / shore access is maintained
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to implement ship / shore safety checklist
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Know how to document and record all necessary information accurately
<b>Assessment criteria</b>
The learner can: 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 236

# How to contribute to the mooring operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 it is:
  - 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 to include:
  - nets and bulwark ladders
  - lifebuoy with light and line
- 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.

## Unit 237

# Contribute to the preparations for the product transfer within jetty operations

<b>UAN:</b>	<b>T/601/1333</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	4
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to determine product transfer requirements
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to confirm that equipment is operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to confirm that systems are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to prepare equipment prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.



<b>Learning outcome</b>
The learner will: 5. Be able to prepare systems prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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 ensure safe operation of the vapour return 5.7 confirm vapour return lines are operational and line up and connect them.

<b>Learning outcome</b>
The learner will: 6. Be able to follow organisational procedures
<b>Assessment criteria</b>
The learner can: 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 237            **Contribute to the preparations for the product transfer within jetty operations**

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to the Preparations for the Product Transfer within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 mixturesto 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.

## Unit 238

# How to contribute to the preparations for the product transfer within jetty operations

<b>UAN:</b>	<b>J/601/1336</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	4
<b>GLH:</b>	36
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to determine product transfer requirements
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to ensure telephones and emergency umbilicals are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to confirm that equipment is operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to confirm that systems are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Know how to prepare equipment prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 6. Know how to prepare systems prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 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 238

# How to contribute to the preparations for the product transfer within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 mixturesto 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.



## Unit 239

## Contribute to the transfer of product within jetty operations

<b>UAN:</b>	<b>R/601/1338</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to fill pipeline with product
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to monitor transfer of product
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to identify any problems or variations and take the appropriate action within own scope of authority
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 239                      **Contribute to the transfer of product within jetty operations**

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to the Transfer of Product within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 on going 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.

## Unit 240

## How to contribute to the transfer of product within jetty operations

<b>UAN:</b>	<b>Y/601/1342</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	24
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to monitor transfer of product
<b>Assessment criteria</b>
The learner can: 1.1 describe how and when to vent air and vapour 1.2 state how to monitor all relevant variables including: <ul style="list-style-type: none"><li>• flow rates during transfer</li><li>• line pressure</li><li>• cargo conditions incl. temperature</li><li>• operation of transfer equipment</li><li>• vapour dispersion</li><li>• environmental conditions during transfer</li></ul> 1.3 identify the appropriate action to take to maintain acceptable and safe transfer of product.

<b>Learning outcome</b>
The learner will: 2. Know how to obtain and confirm relevant information
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to identify the causes and signs of pressure problems
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 240

# How to contribute to the transfer of product within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 on going 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.



## Unit 241

# How to contribute to health and safety operations within jetty operations

<b>UAN:</b>	<b>D/601/1360</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	26
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to maintain the safety of self and others
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to obtain and use relevant safety equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to maintain the security of the area of operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to establish and maintain effective working relationships
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Know how to identify relevant information
<b>Assessment criteria</b>
The learner can: 5.1 identify relevant information that should be communicated 5.2 state what is considered essential information concerning the daily work schedule.

<b>Learning outcome</b>
The learner will: 6. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 241                    How to contribute to health and safety operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 242

## Contribute to emergency operations within jetty operations

<b>UAN:</b>	<b>H/601/1361</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to establish and agree normal and emergency communications
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to report incidents, hazardous conditions and emergencies
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to minimise incidents, hazardous conditions and emergencies within own scope of authority
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to ensure effective environmental protection is in place
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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.

# Unit 242      **Contribute to emergency operations within jetty operations**

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Emergency Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.



## Unit 243

## How to contribute to emergency operations within jetty operations

<b>UAN:</b>	<b>M/601/1363</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	4
<b>GLH:</b>	38
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to establish and agree normal and emergency communications
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to report incidents, hazardous conditions and emergencies
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to assess and deal with the incident within own scope of authority
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to minimise incidents, hazardous conditions and emergencies within own scope of authority
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Identify environmental hazards and how to deal with them
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 6. Know how to ensure effective environmental protection is in place
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 7. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 243      How to contribute to emergency operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 244

## Contribute to post-transfer operations within jetty operations

<b>UAN:</b>	<b>M/601/1346</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to follow transfer plan shutdown instructions
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to complete product transfer operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to re-instate product transfer equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 244                    **Contribute to post-transfer operations within jetty operations**

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Post-Transfer Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.



## Unit 245

## How to contribute to post-transfer operations within jetty operations

<b>UAN:</b>	<b>T/601/1347</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	28
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to follow and understand transfer plan shutdown instructions
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to follow the prescribed procedures during post-transfer operations
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to complete product transfer operation
<b>Assessment criteria</b>
The learner can: 3.1 state how to shutdown 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 deactivate systems 3.5 identify the appropriate systems that need to be activated and deactivated 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.

<b>Learning outcome</b>
The learner will: 4. Know how to re-instate product transfer equipment
<b>Assessment criteria</b>
The learner can: 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 state what inspection techniques should be used and who to report the condition to 4.5 identify the relevant information that needs to be communicated.

## Unit 245

# How to contribute to post-transfer operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 246

## How to contribute to maintenance operations within jetty operations

<b>UAN:</b>	<b>F/601/1352</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	14
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to identify defective equipment and / or systems
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to bring plant and equipment in and out of operation to meet maintenance requirements
<b>Assessment criteria</b>
The learner can: 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 246

# How to contribute to maintenance operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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:
  - fire fighting equipment
  - PV values
  - response equipment
  - pressure gauges
  - valves
  - gauging
  - loading systems
  - 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, financial etc
  - available corrective action – adjust, request assistance, shut down.

## Unit 247

## Contribute to maintenance operations within jetty operations

<b>UAN:</b>	<b>T/601/1350</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to identify defective equipment and / or systems
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to bring plant and equipment in and out of operation to meet maintenance requirements
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to monitor and complete the operation successfully
<b>Assessment criteria</b>
The learner can: 3.1 monitor the plant and equipment during the operation 3.2 complete the operation according to prescribed procedures.

<b>Learning outcome</b>
The learner will: 4. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 247                    **Contribute to maintenance operations within jetty operations**

### Supporting information

#### **Guidance**

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Maintenance Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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:
  - fire fighting equipment
  - PV values
  - response equipment
  - pressure gauges
  - valves
  - gauging
  - loading systems
  - 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, financial etc
  - available corrective action – adjust, request assistance, shut down.



## Unit 248

## Contribute to pre-mooring operations within jetty operations

<b>UAN:</b>	<b>J/601/1370</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	4
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to obtain pre-mooring information
<b>Assessment criteria</b>
The learner can: 1.1 obtain relevant information 1.2 ensure that the ship is positioned within prescribed parameters.

<b>Learning outcome</b>
The learner will: 2. Be able to identify and assess the equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to ensure correct operation of mooring equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 248

# Contribute to pre-mooring operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Pre-Mooring Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 249

## How to contribute to pre-mooring operations within jetty operations

<b>UAN:</b>	<b>Y/601/1373</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	3
<b>GLH:</b>	28
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to obtain pre-mooring information
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know the underlying principles of pre-mooring operations
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Know how to identify and assess the equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Know how to ensure correct operation of mooring equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Know how to understand mooring patterns and plans
<b>Assessment criteria</b>
The learner can: 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 249

# How to contribute to pre-mooring operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.

## Unit 250

## Take samples within jetty operations

<b>UAN:</b>	<b>F/601/1383</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	1
<b>GLH:</b>	4
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to prepare to take samples
<b>Assessment criteria</b>
The learner can: 1.1 obtain containers appropriate for the sample material 1.2 identify the location of the nearest safety equipment.

<b>Learning outcome</b>
The learner will: 2. Be able to take samples correctly
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 250

## Take samples within jetty operations

### Supporting information

#### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Take Samples within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.



## Unit 251

# Take measurements and perform calculations of product within jetty operations

<b>UAN:</b>	<b>Y/601/1387</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	2
<b>GLH:</b>	4
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to prepare to take measurements and perform calculations
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to take measurements and perform calculations correctly
<b>Assessment criteria</b>
The learner can: 2.1 take and record measurements 2.2 reinstate source conditions 2.3 perform all calculations and report any unexpected results.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 251      Take measurements and perform calculations of product within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This should not be taken prior to taking 'How to Take Measurements and Perform Calculations of Product within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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).

## Unit 252

# How to take measurements and perform calculations of product within jetty operations

<b>UAN:</b>	<b>H/601/1389</b>
<b>Level:</b>	Level 2
<b>Credit value:</b>	1
<b>GLH:</b>	10
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to prepare equipment
<b>Assessment criteria</b>
The learner can: 1.1 state how to ensure that the measurement equipment is fit for purpose both before and after measurement.

<b>Learning outcome</b>
The learner will: 2. Know how to carry out measurements and calculations
<b>Assessment criteria</b>
The learner can: 2.1 describe how to perform the relevant calculations 2.2 outline how to recognise and deal with unexpected results.

<b>Learning outcome</b>
The learner will: 3. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 252

# How to take measurements and perform calculations of product within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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).

## Unit 367

## Contribute to health and safety operations within jetty operations

<b>UAN:</b>	<b>L/601/1354</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to maintain the safety of self and others
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to obtain and use relevant safety equipment
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to maintain the security of the area of operation
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to establish and maintain effective working relationships
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 5. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 367      **Contribute to health and safety operations within jetty operations**

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Health and Safety Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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.



## Unit 368

## Carry out pre-arrival operations within jetty operations

<b>UAN:</b>	<b>L/601/3587</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	4
<b>GLH:</b>	8
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to obtain pre-arrival information from vessel
<b>Assessment criteria</b>
The learner can: 1.1 use the correct method of communication 1.2 gather and check all of the relevant information concerning the incoming vessel 1.3 record the information using the appropriate documentation 1.4 communicate all relevant information to the appropriate people.

<b>Learning outcome</b>
The learner will: 2. Be able to obtain and compare weather and tidal conditions prior to berthing and whilst vessel is berthing
<b>Assessment criteria</b>
The learner can: 2.1 obtain forecast of weather conditions prior to and for duration of vessel's stay 2.2 compare forecast weather conditions with permitted weather conditions 2.3 obtain predicted tidal conditions for vessel's transit to / from berth 2.4 compare predicted tidal conditions with permitted tidal conditions 2.5 confirm that vessel's transit to / from berth and time in berth is within acceptable weather and tidal conditions, as determined by the terminal & port authority for the vessel and berth 2.6 establish estimated arrival and departure times of incoming vessel 2.7 ensure that incoming vessel is aware of the terminal's mooring and berthing requirements.

<b>Learning outcome</b>
The learner will: 3. Be able to ensure availability of equipment, services and personnel for berthing / unberthing operations
<b>Assessment criteria</b>
The learner can: 3.1 identify the equipment, services and personnel that will be required for berthing / unberthing operations 3.2 check that the equipment, services and personnel will be available for berthing / unberthing operations 3.3 inspect equipment according to standard operating procedures.

<b>Learning outcome</b>
The learner will: 4. Be able to determine petro-chemical transfer requirements
<b>Assessment criteria</b>
The learner can: 4.1 obtain accurate details of products to be transferred 4.2 determine the required transfer conditions and equipment 4.3 confirm the availability of required transfer equipment on the vessel and shore 4.4 establish the sequence of products / transfer.

<b>Learning outcome</b>
The learner will: 5. Be able to plan contingencies during petro-chemical transfer
<b>Assessment criteria</b>
The learner can: 5.1 refer to relevant sources to gain information concerning hazardous events during transfer operations 5.2 obtain all relevant details needed for intended transfer operation 5.3 when appropriate, carry out a risk assessment for the intended transfer operation 5.4 when appropriate, record the risk assessment using correct documentation 5.5 plan control measures and notification procedures according to the risk assessment.

<b>Learning outcome</b>
The learner will: 6. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 6.1 work safely in accordance with operational requirements 6.2 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.

## Unit 368

# Carry out pre-arrival operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out Pre-Arrival Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- obtaining pre-arrival information from vessel
- obtaining and comparing weather and tidal conditions prior to and for duration of vessel stay
- liaising with relevant authorities prior to berthing operations
- ensuring availability of equipment, services and personnel for berthing / unberthing operations
- determining product transfer requirements
- planning for contingencies during product transfer

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

Within the limits of own responsibility the learner must show that they can gather all relevant information to include:

- information to be obtained prior to arrival of ship could include:
  - deadweight / displacement
  - length overall, air draft & beam
  - distance between bow and centre manifolds
  - present draught
  - maximum draught
  - manifold heights above waterline throughout operation
  - forecast weather conditions
  - predicted tidal conditions
- liaise with the relevant authority (within and outside normal pilot operating times) concerning the terminal's criteria on all of the following:
  - times
  - tides
  - currents
  - weather conditions
  - preferred berthing method
  - manifold heights above waterline throughout operation

- 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.

Show that the learner can determine transfer requirements for any transfer operation likely to be handled by their terminal. This may include:

- cargo
- bunkers / ballasts
- slops
- oily mixtures

Relevant sources of information must be referred to and may include: colleagues, accident records, hazardous events logs etc.

Obtain all relevant details of transfer operation to including all of the following:

- product(s)
- volume
- characteristics of product(s)
- conditions required
- equipment required
- planned sequence for transfer.

## Unit 369

# How to carry out pre-arrival operations within jetty operations

<b>UAN:</b>	<b>R/601/3588</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	5
<b>GLH:</b>	44
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to obtain pre-arrival information from vessel
<b>Assessment criteria</b>
The learner can: 1.1 explain why it is important to gather accurate information 1.2 identify the relevant information to gather 1.3 outline the different types of vessels that may use the terminal 1.4 illustrate the risks and hazards associated with the activity 1.5 indicate the appropriate methods of communication and documentation to use 1.6 explain the risks and hazards associated with the activity.

<b>Learning outcome</b>
The learner will: 2. Know how to obtain and compare weather and tidal conditions prior to berthing and whilst vessel is berthing
<b>Assessment criteria</b>
The learner can: 2.1 explain how weather and tidal information should be obtained and recorded 2.2 outline methods to be used to compare information 2.3 describe how to identify irregularities 2.4 explain the correct procedures to use if conditions are outside acceptable limits.

<b>Learning outcome</b>
The learner will: 3. Know how to liaise with pilotage authority prior to berthing operations
<b>Assessment criteria</b>
The learner can: 3.1 explain why it is important to verify that the pilot will be available for inward / outward passage 3.2 describe the consequences of using incorrect / incomplete information 3.3 explain the appropriate methods of communication (and documentation) to use 3.4 assess the terminal's criteria concerning times, tides and weather conditions.

<b>Learning outcome</b>
The learner will: 4. Know how to ensure availability of equipment, services and personnel for berthing / unberthing operations
<b>Assessment criteria</b>
The learner can: 4.1 describe how to identify berthing / unberthing requirements 4.2 illustrate how to check availability of equipment, services and personnel 4.3 identify inspection methods to use according to standard operating procedure 4.4 state how to inspect equipment prior to berthing / unberthing operations 4.5 explain how to ensure that all resources required are available and appropriate 4.6 explain what problems may occur and how to deal with them.

<b>Learning outcome</b>
The learner will: 5. Know how to determine petro-chemical transfer requirements
<b>Assessment criteria</b>
The learner can: 5.1 explain how to obtain accurate details of the product to be transferred 5.2 describe how to determine required transfer conditions, taking account of all product characteristics 5.3 outline how to determine transfer equipment requirements and check availability of transfer equipment 5.4 explain how to establish the correct transfer sequence and why this is important.

<b>Learning outcome</b>
The learner will: 6. Know how to plan contingencies during petro-chemical transfer
<b>Assessment criteria</b>
The learner can: 6.1 explain how to obtain hazardous event information from relevant sources 6.2 describe how to obtain all relevant details of intended transfer operation 6.3 identify when it is appropriate and how to carry out a risk assessment 6.4 explain why it is important to carry out a risk assessment and how to record the risk assessment.

<b>Learning outcome</b>
The learner will: 7. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 7.1 identify the implications of statutory and organisational requirements 7.2 explain how to interpret operational requirements, e.g. policies, procedures, instructions, codes of practice, standards and schedules 7.3 describe all relevant rules, regulations and guidelines 7.4 identify own responsibilities and duties under current environmental legislation 7.5 identify who to refer to with problems that are not own responsibility and / or cannot be solved 7.6 explain how and when to obtain and use the appropriate Personal Protective Equipment (PPE) and how to select, use and care for PPE (to include sight / hearing protection, gloves, footwear, hard hats and respirators).

## Unit 369

# How to carry out pre-arrival operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- obtaining pre-arrival information from vessel
- obtaining and comparing weather and tidal conditions prior to and for duration of vessel stay
- liaising with relevant authorities prior to berthing operations
- ensuring availability of equipment, services and personnel for berthing / unberthing operations
- determining product transfer operations
- planning for contingencies during product transfer.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

Within the limits of own responsibility the learner must show that they know how to gather all relevant information to include:

- information to be obtained prior to arrival of ship could include:
  - deadweight / displacement
  - length overall, air draft & beam
  - distance between bow and centre manifolds
  - present draught
  - maximum draught
  - manifold heights above waterline throughout operation
  - forecast weather conditions
  - predicted tidal conditions
- liaise with the relevant authority (within and outside normal pilot operating times) concerning the terminal's criteria on all of the following:
  - times
  - tides
  - currents
  - weather conditions
  - preferred berthing method
  - manifold heights above waterline throughout operation



- 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.

Show that the learner can determine transfer requirements for any transfer operation likely to be handled by their terminal. This may include:

- cargo
- bunkers / ballasts
- slops
- oily mixtures

Relevant sources of information must be referred to and may include: colleagues, accident records, hazardous events logs etc.

Obtain all relevant details of transfer operation to include all of the following:

- product(s)
- volume
- characteristics of product(s)
- conditions required
- equipment required
- planned sequence for transfer.

## Unit 370

## Carry out the preparation for product transfer within jetty operations

<b>UAN:</b>	<b>Y/601/3589</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to establish and agree petro-chemical transfer requirements
<b>Assessment criteria</b>
The learner can: 1.1 check and confirm that the incoming vessel's stability and stress criteria have been assessed 1.2 obtain relevant information concerning the product to be transferred 1.3 establish and agree the sequence of transfer operations 1.4 establish and agree transfer procedures and control measures 1.5 agree venting and/or vapour recovery arrangements.

<b>Learning outcome</b>
The learner will: 2. Be able to determine optimum petro-chemical product transfer route
<b>Assessment criteria</b>
The learner can: 2.1 obtain proposed transfer plans and other relevant information 2.2 compare transfer plans with actual transfer pipeline system 2.3 determine whether there are any potential sources of contamination 2.4 analyse the information and determine the optimum cargo transfer route 2.5 determine cleaning and testing requirements to maintain product specification.

<b>Learning outcome</b>
The learner will: 3. Be able to confirm that equipment and systems are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 3.1 check and confirm with the vessel that it is safe to connect / disconnect systems 3.2 check and confirm before connection, that all telephones / emergency umbilicals have been tested to prescribed procedures 3.3 connect all telephones / emergency umbilicals to the correct sockets according to prescribed procedures 3.4 ensure that communications between vessel and shore are of an acceptable quality 3.5 check and confirm with the shore that it is safe to de-activate systems 3.6 establish that all appropriate systems are de-activated 3.7 ensure that telephones / emergency umbilicals are disconnected safely, tested to prescribed procedures and stowed correctly.

<b>Learning outcome</b>
The learner will: 4. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 4.1 work safely in accordance with operational procedures 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 370      Carry out the preparation for product transfer within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out the Preparation for Product Transfer within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- establishing and agreeing product transfer requirements
- determining optimum product transfer route
- confirming that equipment and systems are operating correctly prior to product transfer operation.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

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

- obtain relevant information on the product to be transferred to including all of the following:
  - type, quality and condition of product, including any physical, chemical and electrostatic properties
  - initial, bulk and finishing rates
  - transfer pressures and temperatures
- establish and agree transfer requirements to include:
  - sequence of transfer
  - transfer procedure
  - control measure and procedures
  - vapour recovery procedures

- determine the optimum cargo transfer route, and take account of all of the following:
  - transfer plans
  - transfer pipeline system
  - details of product to be transferred
  - effectiveness of transfer equipment
  - cleaning methods of transfer equipment
  - cleaning methods available at the terminal
  - maximum potential level of contamination for cargo
  - product compatibility
- follow procedures and check and confirm with either the vessel and / or shore that:
  - it is safe to connect / disconnect
  - it is safe to de-activate systems
  - all appropriate systems are de-activated
- 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.

## Unit 371

# How to carry out the preparation for product transfer within jetty operations

<b>UAN:</b>	<b>L/601/3590</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	24
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to establish and agree petro-chemical transfer requirements
<b>Assessment criteria</b>
The learner can: 1.1 state how to check and confirm that the incoming vessel's stability and stress criteria has been assessed 1.2 explain how to obtain relevant product information 1.3 outline the physical, chemical and electrostatic properties of product(s) 1.4 identify methods of transfer operations 1.5 explain how to establish and agree the sequence of transfer operations 1.6 describe how to establish and agree transfer procedures and control measures and why they are important 1.7 explain what venting and / or vapour recovery methods can be used and how to agree them.

<b>Learning outcome</b>
The learner will: 2. Know how to determine optimum petro-chemical product transfer route
<b>Assessment criteria</b>
The learner can: 2.1 explain how to obtain transfer plan and other relevant information 2.2 indicate how to compare transfer plans with actual transfer system 2.3 explain how to determine possible sources of contamination 2.4 describe how to analyse the information and determine the optimum cargo transfer route and why this is important 2.5 explain what cleaning and testing is required to maintain product specification 2.6 identify what procedures need to be followed.

<b>Learning outcome</b>
The learner will: 3. Know how to confirm that telephones, emergency umbilicals and radio communications are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 3.1 explain the connection / disconnection and test procedures for telephones and emergency umbilicals 3.2 describe how to check that all telephone / emergency umbilicals have been tested prior to use 3.3 state how to ensure that all telephones / emergency umbilicals are connected to the correct sockets 3.4 explain how to establish and test radio communication links between vessel and shore 3.5 identify what radio communication techniques and procedures to use to ensure acceptable quality 3.6 describe how to stow telephones and emergency umbilicals correctly.

<b>Learning outcome</b>
The learner will: 4. Know how to confirm that systems are operating correctly prior to product transfer operation
<b>Assessment criteria</b>
The learner can: 4.1 explain how to check and confirm with the incoming vessel that it is safe to connect / disconnect 4.2 describe how to check and confirm with the shore that it is safe to de-activate systems 4.3 identify the appropriate systems that need to be de-activated 4.4 state how to check and confirm that all of the appropriate systems are de-activated 4.5 explain how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 5. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 5.1 identify what problems may occur and how to deal with them 5.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 6. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 6.1 identify own responsibilities and duties under current environmental legislation 6.2 describe the appropriate methods of communication and documentation to use 6.3 state how to obtain and use the appropriate Personal Protective Equipment (PPE), including sight / hearing protection, gloves, footwear, hard hats and respirators 6.4 identify the implications of statutory and organisational requirements 6.5 explain how to interpret operational requirements, e.g. policies, procedures, instructions, codes of practice, standards and schedules 6.6 assess the risks and hazards associated with the activity 6.7 identify all relevant rules, regulations and guidelines.



# Unit 371                    How to carry out the preparation for product transfer within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- establishing and agreeing product transfer requirements
- determining optimum product transfer route
- confirming that equipment and systems are operating correctly prior to product transfer operation

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

Within the limits of own responsibility the learner must show that they know how to:

- obtain relevant information on the product to be transferred to including all of the following:
  - type, quality and condition of product, including any physical, chemical and electrostatic properties
  - initial, bulk and finishing rates
  - transfer pressures and temperatures
- establish and agree transfer requirements to include:
  - sequence of transfer
  - transfer procedure
  - control measure and procedures
  - vapour recovery procedures
- determine the optimum cargo transfer route, and take account of all of the following:
  - transfer plans
  - transfer pipeline system
  - details of product to be transferred
  - effectiveness of transfer equipment
  - cleaning methods of transfer equipment
  - cleaning methods available at the terminal
  - maximum potential level of contamination for cargo
  - product compatibility

- follow procedures and check and confirm with either the vessel and / or shore that:
  - it is safe to connect / disconnect
  - it is safe to de-activate systems
  - all appropriate systems are de-activated
- 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.

## Unit 372

## Carry out the transfer of product within jetty operations

<b>UAN:</b>	<b>R/601/3591</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	8
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to control the transfer of the product
<b>Assessment criteria</b>
The learner can: 1.1 receive the appropriate authority to proceed 1.2 verify the nature of the product 1.3 ensure that the sequence and direction of terminal valve operations is in accordance with product movement instructions 1.4 carry out all relevant control actions 1.5 maintain the product flow rate and nature of the product throughout the transfer 1.6 receive appropriate confirmation that the required quantities have been received.

<b>Learning outcome</b>
The learner will: 2. Be able to take measurements and perform calculations of product
<b>Assessment criteria</b>
The learner can: 2.1 ensure that the measurement equipment is fit for purpose before and after use 2.2 maintain the integrity of the product and environmental conditions throughout 2.3 take and record all relevant measurements 2.4 reinstate all source conditions 2.5 perform all calculations and investigate any unexpected results 2.6 obtain information on manning levels 2.7 ensure that the manning levels are as specified in the normal and emergency preparedness plans.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 3.1 work safely in accordance with operational procedures 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 372      Carry out the transfer of product within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out the Transfer of Product within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- controlling the transfer of the product
- taking measurements and performing calculations of product.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

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

- control the transfer of product within their working environment. this may include:
  - incoming to the terminal
  - outgoing from the terminal
- movement types may include:
  - gravity
  - pumping
  - pressure variation
- 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 a tank)
  - for stock records
  - for client or other agency (for HM Customs & Excise records).

## Unit 373

## How to carry out the transfer of product within jetty operations

<b>UAN:</b>	<b>Y/601/3592</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	30
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to control the transfer of the product
<b>Assessment criteria</b>
The learner can: 1.1 identify the principles of product movement control to include valve operation, sequence and position 1.2 identify the principles of maintaining product flow rate 1.3 state how to verify the nature of the product 1.4 identify the information (to include progress of transfer; product measurement, line conditions, pump conditions, product details) to communicate and to whom (face to face / over distance) 1.5 explain how and when to initiate procedures to resolve irregularities to include product and line conditions, flow rates and product leakages.

<b>Learning outcome</b>
The learner will: 2. Know how to take measurements and perform calculations of product
<b>Assessment criteria</b>
The learner can: 2.1 describe how to ensure that the measurement equipment is fit for purpose including calibration, condition, capability and range, both before and after measurement including cleaning 2.2 state how to perform the relevant calculations to include use of industry / HM Revenue & Customs approved formulae; appropriate calibration charts; data accuracy e.g. product temperature, dip and ullage measurements, weight measurements 2.3 explain how to recognise and deal with unexpected results 2.4 describe how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 3. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 3.1 identify what problems may occur and how to deal with them 3.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 4. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 4.1 identify the implications of statutory and organisational requirements and how to interpret them, including, e.g. policies, procedures, instructions, codes of practice, standards and schedules 4.2 identify all relevant rules, regulations and guidelines 4.3 describe how to select, use and care for Personal Protective Equipment (PPE), including sight / hearing protection, gloves, footwear, hard hats and respirators 4.4 identify own responsibilities and duties under current environmental legislation 4.5 describe the risks and hazards associated with the activity 4.6 identify the appropriate methods of communication and documentation to use.

# Unit 373      How to carry out the transfer of product within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- controlling the transfer of the product
- taking measurements and performing calculations of product.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- control the transfer of product within their working environment. This may include:
  - incoming to the terminal
  - outgoing from the terminal
- movement types may include:
  - gravity
  - pumping
  - pressure variation
- 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 a tank)
  - for stock records
  - for client or other agency (for HM Customs & Excise records).



## Unit 374

## Contribute to health, safety and security operations within jetty operations

<b>UAN:</b>	<b>D/601/3593</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to maintain the health and safety of self and others
<b>Assessment criteria</b>
The learner can: 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 / safety equipment 1.5 ensure that only authorised people are allowed access to the work area 1.6 obtain and use all relevant safety equipment and approved tools 1.7 use the appropriate manual handling methods 1.8 return safety equipment and approved tools to designated areas after use and report any defects.

<b>Learning outcome</b>
The learner will: 2. Be able to maintain the security of the area of operation
<b>Assessment criteria</b>
The learner can: 2.1 obtain security procedure information relevant to ship and shore operations 2.2 ensure that correct security procedures are followed; including the requirements of the International Ship and Port Facility Security (ISPS) Code 2.3 ensure that appropriate method of contact is used with security personnel 2.4 check security at prescribed intervals 2.5 ensure that only authorised personnel are allowed access.

<b>Learning outcome</b>
The learner will: 3. Be able to establish and maintain effective working relationships
<b>Assessment criteria</b>
The learner can: 3.1 treat relevant others in a manner which promotes and maintains goodwill 3.2 promptly and willingly meet reasonable requests from appropriate personnel 3.3 provide clear, accurate and prompt information regarding daily work schedules to relevant others 3.4 support and offer help to relevant others when requested.

<b>Learning outcome</b>
The learner will: 4. Be able to exchange information on work area at handover
<b>Assessment criteria</b>
The learner can: 4.1 ensure that the work information exchanged provides a full, clear and accurate description of the current status of the work area 4.2 clarify and confirm any information that is unclear or conflicting before acceptance 4.3 identify the implications of changing plant conditions on further work 4.4 complete all relevant documentation 4.5 carry out the handover with appropriate people at the designated time and location.

<b>Learning outcome</b>
The learner will: 5. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 5.1 work safely in accordance with operational procedures 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 374      **Contribute to health, safety and security operations within jetty operations**

## Supporting information

### **Guidance**

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Contribute to Health, Safety and Security Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- maintaining the health and safety of self and others
- maintaining the security of the area of operation
- establishing and maintaining working relationships
- exchanging information on work area at handover.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### **Assessment context**

Within the limits of 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 & fall hazard
  - open access
  - gas / toxic release
  - source of ignition
  - slip hazard
- take the 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
  - International Ship and Port Facility Security (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 they have responsibility
  - personnel in other departments
  - external contacts / contractors
- exchange all relevant information at handover:
  - to next shift / operator
  - from previous shift / operator
- risks and hazards associated with the activity could include but are not limited to:
  - maintenance activities
  - accidents
  - malfunctions
  - ineffective / inadequate maintenance
  - incorrect plant and equipment.

## Unit 375

## How to contribute to health, safety and security operations within jetty operations

<b>UAN:</b>	<b>H/601/3594</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	5
<b>GLH:</b>	44
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to maintain the health and safety of self and others
<b>Assessment criteria</b>
The learner can: 1.1 identify safety hazards and take the appropriate action 1.2 state how to keep the working area clean and tidy and explain why this is important 1.3 explain why it is important to keep the access to all escape routes and safety equipment clear 1.4 outline how to obtain the correct safety equipment and approved tools 1.5 describe how to ensure that the safety equipment and approved tools are fit for purpose 1.6 identify the appropriate manual handling methods to use 1.7 explain the reasons for the use of safety equipment, devices and protective clothing 1.8 describe the procedures for obtaining medical assistance 1.9 outline the safety roles of immediate supervisors, colleagues and safety representatives.

<b>Learning outcome</b>
The learner will: 2. Know how to maintain the security of the area of operation
<b>Assessment criteria</b>
The learner can: 2.1 explain how to obtain security procedures relevant to ship and shore operations 2.2 state how to ensure that correct security procedures are followed including the requirements of the International Ship and Port Facility Security (ISPS) Code 2.3 identify the methods that should be used to contact security personnel and identify the correct method to use 2.4 identify the locations of security personnel 2.5 identify the prescribed intervals when the security procedures need to be checked 2.6 explain why it is important to check the security procedures at irregular intervals 2.7 describe how to ensure that only authorised personnel are allowed access to the operation, why it is important to be authorised and who to obtain authorisation from.

<b>Learning outcome</b>
The learner will: 3. Know how to establish and maintain effective working relationships
<b>Assessment criteria</b>
The learner can: 3.1 identify relevant others and how to treat them 3.2 explain what are reasonable requests from relevant others 3.3 describe what is considered essential information concerning the daily work schedule 3.4 identify the methods of handling and resolving difficulties in working relationships.

<b>Learning outcome</b>
The learner will: 4. Know how to exchange and use information on work area at handover
<b>Assessment criteria</b>
The learner can: 4.1 identify the relevant information which needs to be communicated and the relevant people to communicate with 4.2 identify the appropriate methods of communication and documentation to use 4.3 identify responsibilities in relation to own work area 4.4 describe how the handover log relates to the equipment and transfer processes 4.5 explain the relevance of each log item to the operation of the equipment 4.6 state the reasons for taking particular readings and measurements and their significance 4.7 explain how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 5. Know how to identify potential hazards and deal with problems
<b>Assessment criteria</b>
The learner can: 5.1 describe the risks and hazards associated with the activity 5.2 identify the potential hazards associated with the particular working area 5.3 identify the position of other relevant areas outside the site 5.4 explain the types of activity occurring, and possible hazards, in areas adjacent to site 5.5 identify what problems may occur and how to deal with them 5.6 identify who to refer to with problems that are not own responsibility and / or cannot be solved.



<b>Learning outcome</b>
The learner will: 6. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 6.1 describe the emergency procedures for the site 6.2 state own responsibilities and duties under current environmental legislation 6.3 identify the location and position of emergency exits, muster points and emergency equipment 6.4 describe the appropriate responses to fire and gas alarms on adjacent site 6.5 describe how to select, use and care for Personal Protective Equipment (PPE), including sight / hearing protection, gloves, footwear, hard hats and respirators 6.6 identify the implications of statutory and organisational requirements and how to interpret them, including policies, procedures, instructions, codes of practice, standards and schedules 6.7 identify all relevant rules, regulations and guidelines.

# Unit 375      How to contribute to health, safety and security operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- maintaining the health and safety of self and others
- maintaining the security of the area of operation
- establishing and maintaining effective working relationships
- exchanging information on work area at handover.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- 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 & fall hazard
  - open access
  - gas / toxic release
  - source of ignition
  - slip hazard
- take the 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
  - International Ship and Port Facility Security (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 they have responsibility
  - personnel in other departments
  - external contacts / contractors
- exchange all relevant information at handover:
  - to next shift / operator
  - from previous shift / operator
- risks and hazards associated with the activity could include but are not limited to:
  - maintenance activities
  - accidents
  - malfunctions
  - ineffective / inadequate maintenance
  - incorrect plant and equipment.

## Unit 376

## Carry out emergency operations within jetty operations

<b>UAN:</b>	<b>K/601/3595</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	4
<b>GLH:</b>	8
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to establish and agree normal and emergency communications and procedures
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to report incidents, hazardous conditions and emergencies
<b>Assessment criteria</b>
The learner can: 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 2.4 complete all the relevant documentation.

<b>Learning outcome</b>
The learner will: 3. Be able to minimise incidents, hazardous conditions and emergencies
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 4. Be able to ensure effective environmental protection is in place
<b>Assessment criteria</b>
The learner can: 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 control of the environmental hazards which are under own responsibility 4.4 report promptly any hazards which present high risks to the relevant personnel using the appropriate methods.

<b>Learning outcome</b>
The learner will: 5. Be able to test, monitor and evaluate emergency preparedness of personnel, systems and equipment
<b>Assessment criteria</b>
The learner can: 5.1 contribute to the planning of emergency exercises to test personnel, systems and equipment 5.2 contribute to the planned emergency exercises to test the performance of personnel, systems and equipment 5.3 contribute to the monitoring and evaluating the performance of personnel, systems and equipment.

<b>Learning outcome</b>
The learner will: 6. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 6.1 work safely in accordance with operational procedures 6.2 obtain and use the appropriate Personal Protective Equipment (PPE) 6.3 communicate all relevant information to the appropriate people 6.4 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.

## Unit 376

# Carry out emergency operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out Emergency Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- establishing and agreeing normal and emergency communications
- reporting incidents, hazardous conditions and emergencies
- minimising incidents, hazardous conditions and emergencies
- ensuring effective environmental protection is in place
- testing, monitoring and evaluating emergency preparedness of personnel, systems and equipment.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of 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 products
  - 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
  - suppliers' instructions
  - manufacturers' instructions
- plan, conduct, monitor and evaluate the performance of personnel, systems and equipment in emergency scenarios covered by the emergency preparedness plans for all of the following areas:
  - safety
  - fire
  - occupational health
  - environmental protection
  - pollution control
  - pollution response
  - security
  - gas / toxic release
- the risks associated with the activity could include but are not limited to:
  - non-functioning equipment
  - under trained personnel
- potential environmental hazards include:
  - use of products hazardous to the environment
  - disposal of waste hazardous to the environment
  - emission of gases and vapours.



## Unit 377

# How to carry out emergency operations within jetty operations

<b>UAN:</b>	<b>M/601/3596</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	5
<b>GLH:</b>	50
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to establish and agree normal and emergency communications
<b>Assessment criteria</b>
The learner can: 1.1 explain how to confirm the method of communication to be used between ship and shore 1.2 describe how to establish and test back-up communication procedures between ship and shore 1.3 identify and confirm the signals to be used between ship and shore 1.4 identify and locate key personnel 1.5 explain how to follow emergency plans and procedures as defined and agreed.

<b>Learning outcome</b>
The learner will: 2. Know how to interpret and report emergencies and understand the emergency procedures
<b>Assessment criteria</b>
The learner can: 2.1 explain how to access, interpret and implement site emergency plans, environmental procedures and plant emergencies procedures 2.2 illustrate the emergency procedures for the site and the plant layout in the working area 2.3 identify the location and position of emergency exits, muster points and emergency equipment 2.4 describe the appropriate responses to fire and gas alarms on adjacent site 2.5 state the reasons for use of safety equipment, devices and protective clothing 2.6 explain the procedures for obtaining medical assistance and spillage response support.

<b>Learning outcome</b>
The learner will: 3. Know how to report incidents and hazardous conditions
<b>Assessment criteria</b>
The learner can: 3.1 discuss how to verify the scope, nature and location of the incident 3.2 identify the range of incidents that may occur in own working environment 3.3 state how to raise the alarm by the appropriate method 3.4 explain how to report the incident to the appropriate people in accordance with reporting procedures.

<b>Learning outcome</b>
The learner will: 4. Know how to identify and assess incidents and hazards
<b>Assessment criteria</b>
The learner can: 4.1 identify the range of incidents that may occur in own working environment 4.2 identify the potential environmental hazards associated with work procedures and the safety precautions required 4.3 explain how to assess an incident 4.4 define the appropriate action and why it should be taken promptly.

<b>Learning outcome</b>
The learner will: 5. Know how to minimise incidents, hazardous conditions and emergencies
<b>Assessment criteria</b>
The learner can: 5.1 explain how to minimise the situation 5.2 explain when it is appropriate and how to minimise waste and / or loss 5.3 state the correct procedures which need to be followed 5.4 explain how to access and use specified emergency equipment 5.5 describe how to modify the action taken according to changing conditions 5.6 identify the information needed to provide to the appropriate people.

<b>Learning outcome</b>
The learner will: 6. Know how to ensure effective environmental protection is in place
<b>Assessment criteria</b>
The learner can: 6.1 identify any product, material and / or equipment used in any part of own job role which could cause harm to the environment 6.2 explain how to obtain and follow prescribed procedures for dealing with any product, material and / or equipment which could cause harm to the environment 6.3 state why it is important to check that the requirements are up to date for own job role 6.4 explain how to control the environmental hazards within own areas of responsibility 6.5 identify potential environmental hazards which present risks 6.6 identify the appropriate personnel and why it is important to report environmental hazards promptly 6.7 identify the position of other relevant areas outside the site and the types of activity occurring including possible hazards in areas adjacent to site 6.8 describe what environmental protection procedures are in place and where to obtain spillage response emergency support.

<b>Learning outcome</b>
The learner will: 7. Know how to test, monitor and evaluate emergency preparedness of personnel, systems and equipment
<b>Assessment criteria</b>
The learner can: 7.1 explain how to plan emergency exercises to test personnel, systems and equipment 7.2 describe how to conduct exercises to test personnel, systems and equipment 7.3 explain how to monitor the performance of personnel, systems and equipment 7.4 state how to analyse and evaluate the performance of personnel, systems and equipment 7.5 identify the appropriate actions to take based on the evaluation 7.6 explain how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 8. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 8.1 identify what problems may occur and how to deal with them 8.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 9. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 9.1 identify the implications of statutory and organisational requirements and how to interpret them, including policies, procedures, instructions, codes of practice, standards and schedules 9.2 identify all relevant rules, regulations and guidelines 9.3 explain own responsibilities and duties under current environmental legislation 9.4 explain how and when to use the appropriate Personal Protective Equipment (PPE) and how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 9.5 describe the risks and hazards associated with the activity 9.6 identify the relevant information which needs to be communicated and the relevant people to communicate with 9.7 identify the appropriate methods of communication and documentation to use.

# Unit 377      How to carry out emergency operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- establishing and agreeing normal and emergency communications
- reporting incidents, hazardous conditions and emergencies
- minimising incidents, hazardous conditions and emergencies
- ensuring effective environmental protection is in place
- testing, monitoring and evaluating emergency preparedness of personnel, systems and equipment.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- 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 products
  - 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
  - suppliers' instructions
  - manufacturers' instructions
- plan, conduct, monitor and evaluate the performance of personnel, systems and equipment in emergency scenarios covered by the emergency preparedness plans for all of the following areas:
  - safety
  - fire
  - occupational health
  - environmental protection
  - pollution control
  - pollution response
  - security
  - gas / toxic release
- the risks associated with the activity could include but are not limited to:
  - non-functioning equipment
  - under trained personnel
- potential environmental hazards include:
  - use of products hazardous to the environment
  - disposal of waste hazardous to the environment
  - emission of gases and vapours.

## Unit 378

## Carry out mooring operations within jetty operations

<b>UAN:</b>	<b>T/601/3597</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	8
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to operate mooring equipment correctly
<b>Assessment criteria</b>
The learner can: 1.1 complete pre-use safety checks before using shore mooring equipment 1.2 ensure that shore mooring equipment is operating correctly according to agreed mooring schemes 1.3 monitor the vessel's mooring operation 1.4 obtain all relevant information from vessel.

<b>Learning outcome</b>
The learner will: 2. Be able to ensure correct positioning of vessel
<b>Assessment criteria</b>
The learner can: 2.1 analyse information and ensure that the vessel is positioned within prescribed parameters 2.2 ensure the vessel is positioned alongside, and cargo transfer equipment connections can be safely made 2.3 take the appropriate action if the vessel moves out of prescribed parameters.

<b>Learning outcome</b>
The learner will: 3. Be able to ensure that agreed mooring plan is implemented
<b>Assessment criteria</b>
The learner can: 3.1 ensure the vessels mooring pattern meets the prescribed plan for the vessel and berth 3.2 ensure the vessel is positioned alongside, and cargo transfer equipment connections can be safely made 3.3 ensure that the agreed mooring plan is implemented 3.4 ensure that vessel and shore's emergency plans and procedures are defined and agreed.

<b>Learning outcome</b>
The learner will: 4. Be able to implement vessel and shore safety checklist
<b>Assessment criteria</b>
The learner can: 4.1 check and confirm that the vessel has been inspected according to prescribed checklist 4.2 check and confirm that the shore / terminal has been inspected according to prescribed checklist 4.3 ensure that the vessel has been provided with relevant documentation and notices 4.4 ensure prescribed checks take place at the prescribed intervals 4.5 obtain and check results of the vessel and shore / terminal prescribed checks 4.6 record all information accurately.

<b>Learning outcome</b>
The learner will: 5. Be able to evaluate results of ship / shore safety checklist and take appropriate action
<b>Assessment criteria</b>
The learner can: 5.1 recognise and record any deficiencies and / or violations 5.2 evaluate the seriousness of any deficiencies and / or violations 5.3 decide on the appropriate action to take within the limits of own responsibility 5.4 determine who will take the appropriate action 5.5 ensure that the action is taken, and monitor results 5.6 decide on further action if required, if remedial action is not effective or not possible.



<b>Learning outcome</b>
The learner will: 6. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 6.1 work safely in accordance with operational procedures 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 378                      Carry out mooring operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out Mooring Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved activities such as:

- operating mooring equipment
- ensuring correct positioning of vessel
- ensuring that agreed mooring plan is implemented
- implementing ship / shore safety checklist
- evaluating results of ship / shore safety checklist and take appropriate action.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner.**

### Assessment context

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

- recognise that vessel's mooring equipment is correctly applied according to agreed mooring scheme, taking account of all of the following factors:
  - tensions
  - winch forces
  - external factors including tide, weather, waves and passing vessels
  - brake holding power
- obtain relevant information from vessel to include all of the following:
  - vessel freeboard
  - bow to centre manifold
- meet the prescribed mooring plan, following principles of safe mooring, taking into account all of the following factors:
  - angle of rope horizontal
  - angle of rope from fore / aft axis of ship
  - length of rope
  - Unacceptable use of mixed moorings

- check and confirm that the vessel and shore / terminal have been inspected according to the prescribed checklist. The prescribed checklist will include relevant sections from all of the following:
  - International Safety Guide for Oil Tankers and Terminals (ISGOTT) Ship Shore Safety Checklist
  - International Maritime Organisation (IMO) Conventions
  - national, local legislation and guidelines
  - terminal requirements
- evaluate the information using the appropriate methods.
- risks and hazards associated with the activity could include but are not limited to:
  - mixing mooring material types and sizes when intended for the same application
  - incorrect assessment of mooring materials and equipment
  - incorrect equipment operation.

## Unit 379

# How to carry out mooring operations within jetty operations

<b>UAN:</b>	<b>A/601/3598</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	4
<b>GLH:</b>	32
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to operate mooring equipment correctly
<b>Assessment criteria</b>
The learner can: 1.1 explain how to complete pre-use safety checks 1.2 describe how to recognise that the vessel's mooring equipment is correctly applied 1.3 demonstrate how to monitor the vessel's mooring equipment 1.4 state how to ensure that mooring equipment is operated within agreed parameters 1.5 identify the effects external factors have on mooring 1.6 identify how to obtain relevant information from vessel and why it is important to obtain correct information.

<b>Learning outcome</b>
The learner will: 2. Know how to ensure correct positioning of vessel
<b>Assessment criteria</b>
The learner can: 2.1 identify what units of measurement and terminology to use 2.2 identify what methods to use to analyse dimensions of vessel 2.3 demonstrate how to monitor the vessel's mooring equipment 2.4 state how to ensure that mooring equipment is operated within agreed parameters 2.5 describe the prescribed procedures 2.6 explain the principles of safe mooring.

<b>Learning outcome</b>
The learner will: 3. Know how to ensure that agreed mooring plan is implemented
<b>Assessment criteria</b>
The learner can: 3.1 explain how to interpret information in mooring plans and schemes 3.2 describe how to ensure that the mooring pattern meets the prescribed mooring plan 3.3 identify what the limitations of mooring patterns are 3.4 identify what documentation and notices need to be provided to the vessel and how to obtain them 3.5 state how to ensure that the vessel receives the relevant documentation and notices 3.6 describe how to ensure that emergency plans and procedures are defined and agreed.

<b>Learning outcome</b>
The learner will: 4. Know how to implement vessel and shore safety checklist
<b>Assessment criteria</b>
The learner can: 4.1 explain how to check that the vessel, shore and terminal have been inspected according to prescribed safety checklist 4.2 indicate how to ensure that hazards associated with repetitive inspections are minimised 4.3 outline the methods to be used to confirm that the prescribed inspections have been completed 4.4 identify what documentation and notices need to be provided to the vessel and how to obtain them 4.5 state how to ensure that the vessel receives the relevant documentation and notices 4.6 explain how to ensure that inspections take place at prescribed intervals and why this is important 4.7 describe why it is important to record all information accurately.

<b>Learning outcome</b>
The learner will: 5. Know how to evaluate results of ship / shore safety checklist and take appropriate action
<b>Assessment criteria</b>
The learner can: 5.1 explain how to obtain the results of the safety checks 5.2 describe how to recognise and record any deficiencies and / or violations 5.3 explain how to evaluate the information gained 5.4 describe how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 6. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 6.1 identify what problems may occur and how to deal with them 6.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 7. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 7.1 describe the appropriate methods of communication and documentation to use 7.2 explain how and when to use the appropriate personal protective equipment (PPE) and how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 7.3 identify the implications of statutory and organisational requirements and how to interpret operational requirements, eg policies, procedures, instructions, codes of practice, standards and schedules 7.4 assess the risks and hazards associated with the activity 7.5 identify all relevant rules, regulations and guidelines 7.6 explain own responsibilities and duties under current environmental legislation.

## Unit 379

# How to carry out mooring operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- operating mooring equipment
- ensuring correct positioning of vessel
- ensuring that agreed mooring plan is implemented
- implementing ship / shore safety checklist
- evaluating results of ship / shore safety checklist and take appropriate action.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment Context

Within the limits of own responsibility the learner must show that they know how to:

- recognise that vessel's mooring equipment is correctly applied according to agreed mooring scheme, taking account of all of the following factors:
  - tensions
  - winch forces
  - external factors including tide, weather, waves and passing vessels
  - brake holding power
- obtain relevant information from vessel to include all of the following:
  - vessel freeboard
  - bow to centre manifold
- meet the prescribed mooring plan, following principles of safe mooring, taking into account all of the following factors:
  - angle of rope horizontal
  - angle of rope from fore / aft axis of ship
  - length of rope
  - Unacceptable use of mixed moorings

- check and confirm that the vessel and shore / terminal have been inspected according to the prescribed checklist. The prescribed checklist will include relevant sections from all of the following:
  - International Safety Guide for Oil Tankers and Terminals (ISGOTT) Ship Shore Safety Checklist
  - International Maritime Organisation (IMO) Conventions
  - national, local legislation and guidelines
  - terminal requirements
- evaluate the information using the appropriate methods.
- risks and hazards associated with the activity could include but are not limited to:
  - mixing mooring material types and sizes when intended for the same application
  - incorrect assessment of mooring materials and equipment
  - incorrect equipment operation.



## Unit 380

# Monitor inert gas systems, pressures and crude oil washing operation within jetty operations

<b>UAN:</b>	<b>F/601/3599</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	2
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to monitor inert gas systems and pressures
<b>Assessment criteria</b>
The learner can: 1.1 obtain and monitor inert gas and oxygen concentrations and pressures 1.2 ensure that the vessel's inert gas system is operating within prescribed limits 1.3 monitor inert gas and oxygen concentrations and pressures, and take the appropriate action if they exceed prescribed limits.

<b>Learning outcome</b>
The learner will: 2. Be able to monitor the crude oil washing operation
<b>Assessment criteria</b>
The learner can: 2.1 check and confirm that the crude oil washing operation is carried out according to prescribed procedures 2.2 ensure that the vessel is applying correct tank control measures.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 3.1 work safely in accordance with operational procedures 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 380            Monitor inert gas systems, pressures and crude oil washing operation within jetty operations**

### Supporting information

#### **Guidance**

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Monitor Inert Gas Systems, Pressures and Crude Oil Washing Operation within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

#### **Assessment context**

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

- obtain, monitor and compare inert gas oxygen concentrations and pressures from vessel and terminal taking account of all of the following:
  - pressure, temperature relationships
  - units of measurement and terminology
  - pressure and oxygen concentration limits for vessel and terminal
- ensure that the vessel's inert gas system is operating safely and effectively by confirming with personnel from the vessel, all of the following:
  - testing and adjustment of oxygen analyser on the vessel's inert gas system
  - that oxygen concentration in inert gas is maintained within prescribed limits
  - that sufficient inert gas is being produced throughout the discharge to replace the discharged cargo
  - that the deck water seal and pressure vacuum breaker are operating effectively

- check that the crude oil washing operation is carried out according to prescribed procedures, and confirm using the appropriate documentation
- ensure that the vessel is applying the correct tank atmosphere control measures and confirm with the vessel's personnel all of the following:
  - testing, spanning and / or adjustment of vessel's instruments used to monitor vessel's tank atmospheres
  - appropriate instruments are being used to monitor the vessel's tank atmospheres
  - vessel's personnel maintain tank pressures within prescribed limits.

## Unit 381

# How to monitor inert gas systems, pressures and crude oil washing operation within jetty operations

<b>UAN:</b>	<b>M/601/3601</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	26
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to monitor inert gas systems and pressures
<b>Assessment criteria</b>
The learner can: 1.1 explain how to obtain inert gas and oxygen concentrations and pressures 1.2 describe how to interpret and monitor inert gas and oxygen concentrations and pressures 1.3 identify what the prescribed limits for inert gas and oxygen concentrations and pressures are 1.4 identify the appropriate action to take if limits are exceeded 1.5 explain how to check and confirm that the vessel's inert gas system is operating within prescribed limits 1.6 identify who to confirm with that the vessel's inert gas system is operating within prescribed limits.

<b>Learning outcome</b>
The learner will: 2. Know how to monitor crude oil washing operation
<b>Assessment criteria</b>
The learner can: 2.1 describe the correct procedures for crude oil washing operations 2.2 state why it is important to adhere to these procedures 2.3 describe the vessel's tank atmosphere control measures and how to ensure that they are followed 2.4 identify the relevant information that needs to be communicated.

<b>Learning outcome</b>
The learner will: 3. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 3.1 identify what problems may occur and how to deal with them 3.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 4. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 4.1 describe the appropriate methods of communication and documentation to use 4.2 explain how and when to use the appropriate personal protective equipment (PPE) and how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 4.3 identify the implications of statutory and organisational requirements and how to interpret operational requirements, eg policies, procedures, instructions, codes of practice, standards and schedules 4.4 assess the risks and hazards associated with the activity 4.5 identify all relevant rules, regulations and guidelines 4.6 explain own responsibilities and duties under current environmental legislation 4.7 describe how to ensure that all resources required are available and appropriate.

# Unit 381                      How to monitor inert gas systems, pressures and crude oil washing operation within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- obtain, monitor and compare inert gas oxygen concentrations and pressures from vessel and terminal taking account of all of the following:
  - pressure, temperature relationships
  - units of measurement and terminology
  - pressure and oxygen concentration limits for vessel and terminal
- ensure that the vessel's inert gas system is operating safely and effectively by confirming with personnel from the vessel, all of the following:
  - testing and adjustment of oxygen analyser on the vessel's inert gas system
  - that oxygen concentration in inert gas is maintained within prescribed limits
  - that sufficient inert gas is being produced throughout the discharge to replace the discharged cargo
  - that the deck water seal and pressure vacuum breaker are operating effectively
- check that the crude oil washing operation is carried out according to prescribed procedures, and confirm using the appropriate documentation
- ensure that the vessel is applying the correct tank atmosphere control measures and confirm with the vessel's personnel all of the following:
  - testing, spanning and / or adjustment of vessel's instruments used to monitor vessel's tank atmospheres
  - appropriate instruments are being used to monitor the vessel's tank atmospheres
  - vessel's personnel maintain tank pressures within prescribed limits.

## Unit 382

## Carry out maintenance operations within jetty operations

<b>UAN:</b>	<b>A/601/3603</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	4
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to ensure maintenance activities are conducted
<b>Assessment criteria</b>
The learner can: 1.1 ensure that the correct permit to work procedure has been obtained and completed 1.2 liaise with all relevant personnel to ensure co-ordination of maintenance schedule 1.3 take appropriate action if the maintenance procedure cannot be followed 1.4 obtain and check that the accurate operational requirements are available.

<b>Learning outcome</b>
The learner will: 2. Be able to identify when and how to access technical support
<b>Assessment criteria</b>
The learner can: 2.1 monitor and analyse the operational method being used 2.2 assess all work methods and procedures 2.3 identify when technical support is required 2.4 access the appropriate technical support.



<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 3.1 work safely in accordance with operational procedures 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 382      Carry out maintenance operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Carry Out Maintenance Operations within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- ensuring maintenance activities are conducted
- identifying when and how to access technical support

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

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

- ensure maintenance activities are carried out according to prescribed procedures to cover the following equipment and systems at the terminal:
  - fire fighting equipment
  - pressure vacuum valves
  - response equipment
  - pressure gauges
  - product valves
  - gauging
  - loading systems
- analyse the operational methods being used taking account of the following:
  - operating parameters of plant and equipment
  - constraints – production, personnel, time finance etc
  - availability and access to technical data / information
  - possible corrective actions – adjust, request assistance, limit, shut down
  - availability and access to technical personnel.

## Unit 383

## How to carry out maintenance operations within jetty operations

<b>UAN:</b>	<b>F/601/3604</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	4
<b>GLH:</b>	32
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to ensure maintenance activities are conducted
<b>Assessment criteria</b>
The learner can: 1.1 explain how to check the permit to work procedure has been obtained and completed correctly and why this is important before proceeding 1.2 describe why it is important to liaise with all relevant others to co-ordinate planned maintenance 1.3 identify the planned maintenance intervals and how to ensure they are followed 1.4 describe how to carry out the maintenance 1.5 state why it is important to follow all prescribed procedures 1.6 state how to obtain and check that the correct operational requirements are available.

<b>Learning outcome</b>
The learner will: 2. Know how to identify when and how to access technical support
<b>Assessment criteria</b>
The learner can: 2.1 explain how to monitor and analyse the operational method being used 2.2 identify when technical support is required and what technical support is available 2.3 explain how to assess all work methods and procedures 2.4 describe how to access the appropriate technical support 2.5 state how to ensure that all resources required are available and appropriate.

<b>Learning outcome</b>
The learner will: 3. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 3.1 identify what problems may occur and how to deal with them 3.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 4. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 4.1 identify the implications of statutory and organisational requirements and how to interpret them, including policies, procedures, instructions, codes of practice, standards and schedules 4.2 identify all relevant rules, regulations and guidelines 4.3 explain how and when to use the appropriate Personal Protective Equipment (PPE) and how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 4.4 describe the risks and hazards associated with the activity 4.5 identify the appropriate methods of communication and documentation to use 4.6 explain own responsibilities and duties under current environmental legislation.

## Unit 383

# How to carry out maintenance operations within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- ensuring maintenance activities are conducted
- identifying when and how to access technical support

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- ensure maintenance activities are carried out according to prescribed procedures to cover the following equipment and systems at the terminal:
  - fire fighting equipment
  - pressure vacuum valves
  - response equipment
  - pressure gauges
  - product valves
  - gauging
  - loading systems
- analyse the operational methods being used taking account of the following:
  - operating parameters of plant and equipment
  - constraints – production, personnel, time finance etc
  - availability and access to technical data / information
  - possible corrective actions – adjust, request assistance, limit, shut down
  - availability and access to technical personnel.

## Unit 384

## Lead the work activity within jetty operations

<b>UAN:</b>	<b>L/601/3606</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	2
<b>GLH:</b>	6
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to lead the work activity
<b>Assessment criteria</b>
The learner can: 1.1 support relevant colleagues during the work activity 1.2 communicate all relevant information to all relevant colleagues 1.3 ensure that the competences of relevant colleagues are appropriate to the work activity.

<b>Learning outcome</b>
The learner will: 2. Be able to maintain appropriate personnel levels
<b>Assessment criteria</b>
The learner can: 2.1 ensure that all staff levels are appropriate for the work activity 2.2 review personnel competencies in accordance with agreed procedures 2.3 ensure that personnel are trained as necessary.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 3.1 work safely in accordance with operational procedures 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.

# Unit 384      Lead the work activity within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to Lead the Work Activity within Jetty Operations'.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- leading work
- maintaining appropriate personnel levels.

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

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

- ensure that the competence levels for the work being undertaken are appropriate in terms of:
  - the team (if appropriate)
  - the individuals
- ensure that manning levels, and the competence of personnel, complies with the normal and emergency preparedness plans for all of the following:
  - safety
  - fire
  - occupational health
  - environmental protection
  - pollution control
  - pollution response
  - security
  - gas / toxic release.

## Unit 385

## How to lead the work activity within jetty operations

<b>UAN:</b>	<b>R/601/3607</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	2
<b>GLH:</b>	20
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to lead the work activity
<b>Assessment criteria</b>
The learner can: 1.1 explain how to identify and communicate the staff levels and competences required for the work activity 1.2 describe how to ensure that the competences of relevant colleagues are appropriate to the work activity 1.3 explain how to handle a situation where the competences of a colleague do not appear to match those required for the work activity 1.4 identify the type of information that should be communicated and the ways in which information can be communicated 1.5 state the types of support that may be required by colleagues and the ways in which support can be provided.

<b>Learning outcome</b>
The learner will: 2. Know how to maintain appropriate personnel levels
<b>Assessment criteria</b>
The learner can: 2.1 explain how to obtain information on manning requirements 2.2 state how to ensure that manning levels are as specified in the normal and emergency plans 2.3 describe how to review personnel competencies regularly and why this is important 2.4 identify when training is required and how to access the training 2.5 explain how to ensure that personnel are appropriately trained.



<b>Learning outcome</b>
The learner will: 3. Know how to deal with problems effectively
<b>Assessment criteria</b>
The learner can: 3.1 identify what problems may occur and how to deal with them 3.2 identify who to refer to with problems that are not own responsibility and / or cannot be solved.

<b>Learning outcome</b>
The learner will: 4. Know how to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 4.1 describe the appropriate methods of communication and documentation to use 4.2 explain how to ensure that all resources required are available and appropriate 4.3 explain how and when to use the appropriate Personal Protective Equipment (PPE) and how to select, use and care for PPE, including sight / hearing protection, gloves, footwear, hard hats and respirators 4.4 identify the implications of statutory and organisational requirements and how to interpret operational requirements, e.g. policies, procedures, instructions, codes of practice, standards and schedules 4.5 assess the risks and hazards associated with the activity 4.6 identify all relevant rules, regulations and guidelines 4.7 explain own responsibilities and duties under current environmental legislation.

# Unit 385      How to lead the work activity within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an experienced operator seeking progression.

The learner will be involved in activities such as:

- leading work
- maintaining appropriate personnel levels

During this work the learner must take account of the relevant operational requirements and safe working practices **as they apply to the learner**.

### Assessment context

Within the limits of own responsibility the learner must show that they know how to:

- ensure that the competence levels for the work being undertaken are appropriate in terms of:
  - the team (if appropriate)
  - the individuals
- ensure that manning levels, and the competence of personnel, complies with the normal and emergency preparedness plans for all of the following:
  - safety
  - fire
  - occupational health
  - environmental protection
  - pollution control
  - pollution response
  - security
  - gas / toxic release.

## Unit 673

## How to contribute to the pre-arrival of ship within jetty operations

<b>UAN:</b>	<b>J/601/1367</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	3
<b>GLH:</b>	24
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Know how to obtain pre-arrival information from ship
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Know how to ensure availability of equipment, services and personnel for berthing / un-berthing operations
<b>Assessment criteria</b>
The learner can: 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 673                    How to contribute to the pre-arrival of ship within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression. 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 pilotage 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.

## Unit 674

## Contribute to the pre-arrival of ship within jetty operations

<b>UAN:</b>	<b>A/601/1365</b>
<b>Level:</b>	Level 3
<b>Credit value:</b>	4
<b>GLH:</b>	20
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Cogent, the Sector Skills Council for Chemicals, Pharmaceuticals, Nuclear, Oil and Gas, Petroleum and Polymers

<b>Learning outcome</b>
The learner will: 1. Be able to obtain pre-arrival information from ship
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 2. Be able to ensure availability of equipment, services and personnel for berthing / un-berthing operations
<b>Assessment criteria</b>
The learner can: 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.

<b>Learning outcome</b>
The learner will: 3. Be able to follow organisational policies and procedures
<b>Assessment criteria</b>
The learner can: 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 674

# Contribute to the pre-arrival of ship within jetty operations

## Supporting information

### Guidance

This unit is subject to the requirements set out in the Cogent Assessment Strategy.

This unit should not be taken prior to taking 'How to contribute to the pre-arrival of ship within jetty operations'. The assumed prerequisite is that the learner will be an operator with basic experience or an apprentice seeking progression.

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 pilotage 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.





## Appendix 1 Relationships to other qualifications

### Links to other qualifications

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications.

This qualification has connections to the:

- Level 2 and 3 Process Engineering qualifications

### Literacy, language, numeracy and ICT skills development

This qualification can develop skills that can be used in the following qualifications:

- Functional Skills (England) – see [www.cityandguilds.com/functionalskills](http://www.cityandguilds.com/functionalskills)
- Essential Skills (Northern Ireland) – see [www.cityandguilds.com/essentialskillsni](http://www.cityandguilds.com/essentialskillsni)
- Essential Skills Wales – see [www.cityandguilds.com/esw](http://www.cityandguilds.com/esw)



## Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on [www.cityandguilds.com](http://www.cityandguilds.com).

**Centre Manual - Supporting Customer Excellence** contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

**Our Quality Assurance Requirements** encompasses all of the relevant requirements of key regulatory documents such as:

- Regulatory Arrangements for the Qualifications and Credit Framework (2008)
- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

**Access to Assessment & Qualifications** provides full details of the arrangements that may be made to facilitate access to assessments and

qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Qualifications and Credit Framework (QCF):** general guidance about the QCF and how qualifications will change, as well as information on the IT systems needed and FAQs
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for GOLA/e-volve assessments.

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[www.cityandguilds.com](http://www.cityandguilds.com)

## Useful contacts

<b>UK learners</b> <b>General qualification information</b>	<b>T: +44 (0)844 543 0033</b> <b>E: learnersupport@cityandguilds.com</b>
<b>International learners</b> General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: <b>intcg@cityandguilds.com</b>
<b>Centres</b> Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>centresupport@cityandguilds.com</b>
<b>Single subject qualifications</b> Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: <b>singlesubjects@cityandguilds.com</b>
<b>International awards</b> Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>intops@cityandguilds.com</b>
<b>Walled Garden</b> Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>walledgarden@cityandguilds.com</b>
<b>Employer</b> Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: <b>business@cityandguilds.com</b>
<b>Publications</b> Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

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**If you have a complaint, or any suggestions for improvement about any of the services that we provide, email: [feedbackandcomplaints@cityandguilds.com](mailto:feedbackandcomplaints@cityandguilds.com)**

### **About City & Guilds**

As the UK's leading vocational education organisation, City & Guilds is leading the talent revolution by inspiring people to unlock their potential and develop their skills. We offer over 500 qualifications across 28 industries through 8500 centres worldwide and award around two million certificates every year. City & Guilds is recognised and respected by employers across the world as a sign of quality and exceptional training.

### **City & Guilds Group**

The City & Guilds Group operates from three major hubs: London (servicing Europe, the Caribbean and Americas), Johannesburg (servicing Africa), and Singapore (servicing Asia, Australia and New Zealand). The Group also includes the Institute of Leadership & Management (management and leadership qualifications), City & Guilds Land Based Services (land-based qualifications), the Centre for Skills Development (CSD works to improve the policy and practice of vocational education and training worldwide) and Learning Assistant (an online e-portfolio).

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