

National Occupational Standards for
Oil-fired Technical Services
Installation Technician

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The Sector Skills Council for Chemicals, Nuclear, Oil and Gas, Petroleum
and Polymers



CONTENTS

Unit 3 - Maintain environmental good practice when working with oil	4
Unit 4 - Install oil-fired systems and equipment.....	6
Unit 5 - Pre-commission and decommission oil-fired systems and equipment	11
Unit 6 - Pre-commission and decommission oil storage and supply systems	14
Unit 7 - Maintain the safe working environment for oil-fired systems and related work	18
Unit 8 - Develop & maintain effective working relationships with others for oil- fired related work.	21
Unit 11 - Install oil storage and supply systems [domestic].....	23
Unit 11a - Install oil storage and supply systems [commercial/industrial].....	28

UNIT 3 - MAINTAIN ENVIRONMENTAL GOOD PRACTICE WHEN WORKING WITH OIL

Overview

This unit requires that you show you can maintain environmental good practice when working with oil.

The unit measures your ability to minimise environmental damage during work and to encourage others to adopt the same procedures.

You must be able to :-

- Recognise types of environmental damage and applicable legislation.
- Use appropriate tools, materials and methods to minimise environmental damage
- Report **all** environmental incidents to the agency for England, Wales and Northern Ireland or the Scottish Environment Protection Agency for Scotland.
- Promote environmental good practice.

This Unit is a single element Unit

Performance Criteria – this is what you must do:

1. perform work in a manner which minimises environmental damage
2. conduct work in accordance with relevant legislation, guidance and organisational procedures which relate to environmental impact
3. recognise any incidental damage and take action to minimise or rectify the damage promptly
4. dispose of waste materials safely and in accordance with relevant legislation
5. report and record all environmental incidents promptly and accurately to the appropriate agencies
6. identify opportunities to encourage relevant people to maintain environmental good practice
7. encourage relevant people to understand, and participate in, any changes to working practices
8. deliver communication clearly, accurately and in a manner which is likely to encourage involvement in environmental good practice

Range:

Environmental damage:	pollution, physical disturbance
Waste materials:	those to which COSHH regulations applies
Relevant people:	those within the organisation, those external to the organisation

Knowledge and Understanding – this is what you must know:

- a) methods for minimising environmental damage during work
- b) the most suitable choice of materials and equipment given the nature and the location of the work activity and its potential impact on the environment
- c) types of environmental damage, the impact these can have on the environment and the corrective actions to be taken
- d) organisational and legislative requirements in terms of minimising environmental damage
- e) the ways in which tools and materials should be used in order to minimise environmental damage
- f) safe methods of waste disposal which will minimise the risk to the environment
- g) those to whom environmental incidents should be reported, the appropriate environment bodies, and the methods for so doing
- h) how and why environmental good practice should be maintained
- i) who to involve in improving environmental good practice
- j) ways of communicating clearly to others and the importance of this in improving working practices
- k) the range of information that needs to be passed to the customer to ensure the correct and economical use of energy dependant systems

REV.	Final	DATE	01.12.2003
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UNIT 4 - INSTALL OIL-FIRED SYSTEMS AND EQUIPMENT

Overview

This unit requires that you show you can install oil-fired systems and equipment.

You need to show you know and understand statutory and industrial procedures for the installation of a range of oil-fired systems and equipment; these could include oil fired heating, cooking and oil storage systems, boilers, warm air heaters, cookers, water heaters and stoves, and may necessarily include flues conventional or open low-level, fan-assisted flues.

This unit also refers to the installation of mechanical systems i.e. heating, hot water systems and cold water systems.

You must comply with the latest statutory regulations, Building regulations and standards, industry codes of practice, British Standards and manufacturers instructions in order to ensure that oil-fired systems and equipment are installed to meet the users needs and will operate in a safe and efficient manner.

This unit consists of two elements:

4.1 Prepare for the installation of oil-fired systems and equipment:

You must be able to :-

- prepare the work locations for installation work
- survey work area for installation
- check tools, equipment and materials meet the job and industry requirements
- check incoming services are suited to their intended use

4.2 Carry out the installation of oil-fired systems and equipment:

You must be able to :-

- install system and equipment to meet customers, manufacturers and industry requirements
- connect services to installed system and components
- check that services are connected to systems and equipment
- work in a safe methodical manner
- take precautionary actions to prevent use of unsafe installations.

ELEMENT 4.1 PREPARE FOR THE INSTALLATION OF OIL FIRED SYSTEMS AND EQUIPMENT

Performance Criteria -this is what you must do:

- 4.1.1 ensure that **safety provisions**⁽¹⁾ within the immediate work location conform to the requirements of health and safety legislation
- 4.1.2 ensure that **access provision**⁽²⁾ to and from the immediate work location complies with health and safety requirements for the safe movement of the workforce, members of the public and materials
- 4.1.3 report any pre-installation damage or defects to existing building features to the job supervisor, line manager
- 4.1.4 protect **customers' property**⁽³⁾ and the **building fabric**⁽⁴⁾ against possible damage being caused during the installation process
- 4.1.5 check that **input services**⁽⁵⁾ to the system components are suited to their intended purpose.
- 4.1.6 confirm that the customer has **job information**⁽⁶⁾ on all key aspects of the installation process
- 4.1.7 confirm that all **materials, tools and equipment**⁽⁷⁾ necessary for the installation process will be available as required.
- 4.1.8 arrange safe storage provision for **materials, tools and equipment**⁽⁷⁾ which meet industry requirements.
- 4.1.9 carry out **preparatory work**⁽⁸⁾ to meet the installation requirements of **systems and equipment**⁽⁹⁾

RANGE:

(1) Safety provisions	identifying and removing hazards in the work location, compliance with risk assessments, confined spaces and working at height
(2) Access provision	ensuring appropriate access to and from the work location and where necessary installing appropriate barriers to access

(3) Customers' property	these relate to work surfaces of the location where you are working, coverings such as wallpaper or carpets, furniture, or equipment, as well as building fabric and structures where the use of protective equipment and dust sheets are necessary
(4) Building fabric	
(5) Input services	oil, water, electricity, ventilation,
(6) Job information	instructions, specifications and method statements
(7) Materials, tools & equipment	materials, tools and equipment required for the installation work which meet industry requirements and are fit for purpose
(8) Preparatory work	identifying and collating sufficient materials, tools and equipment for the installation work
(9) Systems and equipment	Mechanical systems – such as heating and hot water systems, cold water systems; equipment such as oil appliances such as boilers, warm air heaters, cookers, conventional, open low-level, fan assisted flues, water heaters, stoves

Knowledge and Understanding - This is what you must know:

- a) the sources of information on the preparatory work necessary for the system or component installation
- b) regulations, recommendations governing safety in the workplace. Your general responsibilities for your own safety and that of others
- c) the equipment necessary to provide safe access to work at heights, or in confined spaces
- d) how to protect customer's property or the building fabric prior to the work commencing
- e) the input services or supplies required for new systems or equipment, or for extending systems or adding components to existing systems:- how to confirm that input services are adequate
- f) the persons to which deficiencies in input services should be reported and procedures for isolating input services.
- g) how to ensure that the customer is fully briefed on all aspects of the installation programme.
- h) the tools, equipment, materials and components required for the system installation – order and supply advice, delivery and checking procedures.
- i) the actions to be taken should materials not be available at site to commence the installation activity
- j) secure storage procedures for tools, equipment, materials and components basic stores procedures to ensure security and to minimise loss or wastage
- k) the different methods of how chimneys are constructed and adapted
- l) appliance manufacturers' instructions for assembling flues

ELEMENT 4.2 CARRY OUT THE INSTALLATION OF SYSTEMS AND COMPONENTS
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Performance Criteria - this is what you must do:

- 4.2.1 confirm that the **materials, tools and equipment**⁽¹⁾ required for the installation processes are fit for their intended purpose
- 4.2.2 fabricate **system components**⁽²⁾ using work methods that conform to **industry requirements**⁽³⁾
- 4.2.3 position pipework, systems and equipment to conform to the **system design requirement**⁽⁴⁾
- 4.2.4 fix pipework, **systems and equipment**⁽⁷⁾ using methods that conform to **industry requirements**⁽³⁾.
- 4.2.5 connect pipework, **systems and equipment**⁽⁷⁾ to systems and input services using methods that meet **industry requirements**⁽³⁾.
- 4.2.6 carry out the installation processes minimising damage to customer property and building features
- 4.2.7 report to the immediate job supervisor, line manager (or customer) circumstances that affect the progress of the installation.
- 4.2.8 confirm the integrity of the installed system using **checking procedures**⁽⁵⁾
- 4.2.9 take **precautionary actions**⁽⁶⁾ to prevent the unauthorised use of uncommissioned systems and components

RANGE:

(1) Materials, tools and equipment	materials, tools and equipment required for the installation work which meet industry requirements and are fit for purpose
(2) System components	bracketry and associated components
(3) Industry requirements	Statutory regulations, Building regulations and Standards, British Standards, manufacturers instructions, industry codes of practice
(4) System design requirements	agreed standards for installations covering regulations and statutory requirements
(5) Checking procedures	to include checking that pipework, fittings, joints/valve are fitted correctly
(6) Precautionary actions	notices, warning labels, wearing personal protective equipment
(7) Systems and equipment	Mechanical systems – such as heating and hot water systems, cold water systems; Equipment - such as oil appliances such as boilers, warm air heaters, cookers, conventional, open low-level,

REV.	Final	DATE	01.12.2003
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	fan assisted flues, water heaters, stoves
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Knowledge and Understanding - This is what you must know:

- a) how to measure and record installation and site details for prefabrication purposes
- b) industry codes of practice and work standards for fabricating and installing system components
- c) the positioning and fixing requirements for system components which conform to the system design and intended functions
- d) the procedures required for connecting to input services or connecting pipework into existing systems
- e) methods of working which protect the building décor, customer property and existing systems or equipment
- f) job management structures and methods of reporting and recording job progress or problems delaying progress
- g) the care and maintenance requirements of tools and equipment, and checks for safe condition.
- h) the range of checks used to confirm systems' integrity and components and how to use the range of equipment for this purpose.
- i) the purpose of appliance classification categories, their significance and what materials to use for different appliance categories
- j) different flues options including balanced flues and specialist options
- k) appropriate types of terminals for different flue types
- l) requirements for combustion gases, combustion air allowance and compartment ventilation
- m) all relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions regarding flueing, air supply systems and oil systems and equipment
- n) characteristics of materials required for flues, chimneys, terminals and air supply systems and the impact of flue gas temperatures on materials
- o) flue draught requirements and types of stabilisers
- p) insulation requirements for existing chimneys and lifespan of flueing materials and air supply systems
- q) principles of fuel classifications and their effect upon installation
- r) regulations governing fuel terminating positions and clearances for oil fired appliances
- s) different ways of jointing materials together

REV.	Final	DATE	01.12.2003
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UNIT 5 - PRE-COMMISSION AND DECOMMISSION OIL-FIRED SYSTEMS AND EQUIPMENT

Overview

This unit requires that you show you can pre-commission and decommission a range of oil fired systems and equipment.

This Unit measures your ability in the use of statutory and industrial requirements to carry out a range of pre-commissioning checks and tests, and decommission a range of oil fired systems, pipe work systems, tank and other components.

You must comply with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions in order to ensure that appliances and systems are pre-commissioned and decommissioned safely by removal or dismantling.

This Unit consists of two elements :

5.1 Carry out pre-commissioning checks and tests on oil-fired systems and equipment

You must be able to:-

- ensure the system is correctly installed
- check incoming services have been utilised as intended
- carry out pre-commissioning checks and tests to include:
 - checking ventilation, flues, and that the system is purged

5.2 De-commission oil-fired systems and equipment

You must be able to:-

- Communicate the decommissioning requirements to co-contractors of the customer
- Check the operation of system controls
- Set system controls in-line with manufacturers and users requirements.
- Explain the safe operation of the system and components to the user.
- Set the isolation valves to the necessary positions to enable safe decommissioning
- Test supplies to ensure that the decommissioning process is complete.
- Take precautionary action to ensure that decommissioned systems do not pose a safety hazard

ELEMENT 5.1 CARRY OUT PRE-COMMISSIONING CHECKS AND TESTS ON OIL-FIRED SYSTEMS AND EQUIPMENT
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Performance Criteria - this is what you must do:

- 5.1.1 confirm that the **system or component**⁽¹⁾ installation complies with **industry requirements**⁽²⁾
- 5.1.2 check that **input services**⁽³⁾ to the **system components**⁽¹⁾ are suited to their intended purpose.
- 5.1.3 check **systems or components**⁽¹⁾ for soundness using procedures that comply with **industry requirements**⁽²⁾
- 5.1.4 carry out **pre-commissioning tests and checks**⁽⁴⁾ in accordance with **industry requirements**⁽²⁾
- 5.1.5 check that the system cleanliness, additives and charging comply with **industry requirements**⁽²⁾

RANGE:

(1) System components	oil fired systems, pipe work systems, tank and other components.
(2) Industry requirements	relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
(3) INPUT SERVICES	oil, water, electricity, ventilation,
(4) Tests & checks	soundness tests pre-commissioning checks and tests

Knowledge and Understanding - this is what you must know:

- a) the procedures, equipment and legislative requirements for applying soundness tests to systems
- b) the methods of establishing that input services adequately supply all components within the system
- c) the methods of connecting components to systems
- d) the actions to take where pre-commissioning checks or tests reveal system or component defects
- e) how to complete commissioning documentation confirming the safe commissioning of systems and components

ELEMENT 5.2 DECOMMISSION OIL-FIRED SYSTEMS AND EQUIPMENT

Performance Criteria - this is what you must do:

- 5.2.1 liaise with **relevant people**⁽¹⁾ at appropriate points within the de-commissioning process to minimise disturbance to work routines.
- 5.2.2 check that conditions within the system will permit safe de-commissioning
- 5.2.3 decommission **systems or components**⁽²⁾ using tests and procedures, which comply with **industry requirements**⁽³⁾
- 5.2.4 take **precautionary actions**⁽⁴⁾ to ensure that de-commissioned **systems or components**⁽²⁾ do not prove a safety hazard.

RANGE:

(1) Relevant People	Private client/customer, whether tenant or owner Main contractor's representative Representatives of inspectorates Co-contractor
(2) System components	oil fired systems, pipe work systems, storage tanks and associated components
(3) Industry requirements	relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
(4) Precautionary actions	adequate combustion and ventilation air supply and routes, British standards, Building regulations and Standards requirements for non closable openings

Knowledge and Understanding - this is what you must know:

- a) the importance of confirming the system design, specification, functions and outcomes of suspending the operation of the system
- b) the need to liaise with others whose procedures or routines may be affected by the suspension of the system operation
- c) the potential hazards that could arise from de-commissioning activities and the checks to be carried out before de-commissioning takes place
- d) de-commissioning procedures for temporary and permanent de-commissioning of systems
- e) the precautions to ensure that de-commissioned systems do not prove a safety hazard – measures to prevent systems being brought into operation – safety and warning notices
- f) how to safely collect and dispose of system contents that may be hazardous to health or the environment.
- g) how to complete systems de-commissioning records

REV.	Final	DATE	01.12.2003
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UNIT 6 - PRE-COMMISSION AND DECOMMISSION OIL STORAGE AND SUPPLY SYSTEMS

Overview

This unit requires that you show you can pre-commission and decommission a range of oil storage and supply systems used in commercial or industrial uses or sites.

This Unit measures your ability in the use of statutory and industrial requirements to carry out the necessary range of pre-commissioning checks and tests, and decommission oil storage and supply systems and associated equipment.

You must comply with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions in order to ensure that tanks, supply systems and associated equipment are pre-commissioned and decommissioned safely by removal or dismantling.

This Unit consists of two elements :

6.1 Carry out pre-commissioning checks and tests on oil storage and supply systems

You must be able to :

- ensure the oil storage and supply systems and associated equipment are installed to industry requirements
- carry out pre-commissioning checks and tests to confirm:
 - that the tank and associated fuel pipework is installed in accordance with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
 - is able to be filled safely
 - meets the standard for pressure

6.2 De-commission oil storage and supply systems

You must be able to:-

- explain the operation of the decommissioning procedure to others
- set the isolation valves to the necessary positions to enable safe decommissioning
- test supplies to ensure that the decommissioning process is complete.
- take precautionary action to ensure that decommissioned systems do not pose a safety hazard
- demonstrate that you understand the requirements of carrying out pre-commissioning checks, tests and the decommissioning of oil storage and supply systems used in large commercial or industrial uses.

ELEMENT 6.1 CARRY OUT PRE-COMMISSIONING CHECKS AND TESTS ON OIL STORAGE AND SUPPLY SYSTEMS

Performance Criteria - this is what you must do:

- 6.1.1 confirm that the **oil storage system** ⁽¹⁾ installation complies with **industry requirements** ⁽²⁾
- 6.1.2 check that fittings and supply systems suit their intended purpose
- 6.1.3 check the **storage system** ⁽¹⁾ meets the pressure tests using procedures that comply with **industry requirements** ⁽²⁾
- 6.1.4 carry out other **pre-commissioning tests and checks** ⁽³⁾ in accordance with **industry requirements** ⁽²⁾
- 6.1.5 check that the storage system capacity, labelling and supply system comply with **industry requirements** ⁽²⁾

RANGE:

1. storage and supply system	oil storage tanks, supply systems and other associated equipment used in commercial or industrial settings or sites
2. Industry requirements	relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
3. Tests & checks	leakage/ pressure tests and other pre-commissioning checks and tests

Knowledge and Understanding - this is what you must know:

- a. the procedures, equipment and legislative requirements for applying tests to storage systems
- b. the actions to take where pre-commissioning checks or tests reveal system or component defects
- c. how to complete pre-commissioning documentation confirming the safe commissioning of storage and supply systems
- d. pre-commissioning techniques appropriate to commercial/industrial uses or sites
- e. which safety checks to make and who must be involved before starting pre-commissioning activities on a oil storage and supply system

ELEMENT 6.2 DECOMMISSION OIL STORAGE AND SUPPLY SYSTEMS

Performance Criteria - this is what you must do:

- 6.2.1 check the agreement on which section(s) of the oil-fired system is to be decommissioned and confirm the sequence for de-commissioning that is safe and complies with industry requirements
- 6.2.2 liaise with **other persons**⁽¹⁾ at appropriate points within the de-commissioning process to minimise disturbance to work routines
- 6.2.3 check that conditions within the system will permit safe de-commissioning
- 6.2.4 decommission **oil storage and supply systems**⁽²⁾ using tests and procedures, which comply with **industry requirements**⁽³⁾
- 6.2.5 take **precautionary actions**⁽⁴⁾ to ensure that de-commissioned **storage and supply systems**⁽²⁾ do not prove a safety hazard
- 6.2.6 ensure that arrangements have been made for the safe removal of system contents and old equipment in line with the activity undertaken

RANGE:

(1) Other persons	Private client/customer, whether tenant or owner Main contractor's representative Representatives of inspectorates Co-contractor
(2) Oil storage and supply system	oil storage tanks, supply systems and other associated equipment used in commercial or industrial settings or sites
(3) Industry requirements	relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
(4) Precautionary actions	adequate combustion and ventilation air supply and routes, British standards, Building regulations and Standards requirements for non closable openings,

Knowledge and Understanding - this is what you must know:

- a) the importance of confirming the system design, specification, functions and outcomes of suspending the operation of the system
- b) the need to check the sequence of decommissioning that is safe and complies with industry and safety regulations
- c) the need to liaise with others whose procedures or routines may be affected by the suspension of the system operation

REV.	Final	DATE	01.12.2003
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- d) the potential hazards that could arise from de-commissioning commercial or industrial systems and the safety checks to be carried out before de-commissioning takes place
- e) de-commissioning procedures for temporary and permanent de-commissioning of storage and supply systems
- f) the precautions to ensure that de-commissioned systems do not prove a safety hazard – measures to prevent systems being brought into operation – safety and warning notices
- g) the procedures and requirements for the safe collection and disposal of storage system contents and equipment that may be hazardous to health or the environment.
- h) how to complete system de-commissioning records and documentation appropriate to the commercial and industrial usage or site

REV.	Final	DATE	01.12.2003
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UNIT 7 - MAINTAIN THE SAFE WORKING ENVIRONMENT FOR OIL-FIRED SYSTEMS AND RELATED WORK

Overview

This unit requires you show you can maintain the safe working environment for oil-fired systems and related work.

The unit measures your ability in the use of statutory and industrial procedures to maintain a safe working environment.

You must show you comply with health and safety legislation and take necessary precautions to reduce the risk of accidents, to yourselves, co-contractors, the public or any site visitor.

This is a single element Unit.

You must be able to:-

- carry out a risk assessment
- comply with existing risk assessments and warning notices
- use tools and equipment in a manner that complies with health and safety requirements
- maintain tools and equipment in-line with health and safety requirements
- comply with COSHH requirements
- safe guard customer's property

Performance Criteria - this is what you must do:

1. comply with health and safety legislation⁽¹⁾ when working with other persons⁽²⁾
2. take precautionary actions⁽³⁾ to minimise the potential safety risk to persons in the work location⁽⁴⁾
3. work to the procedures laid down in risk assessments⁽⁵⁾ (or produce written risk assessments)⁽⁵⁾
4. take remedial action⁽¹⁾ where work methods which contravene health & safety requirements are identified
5. use **tools and equipment**⁽⁶⁾ in a manner, which complies with health & safety requirements
6. maintain **tools and equipment**⁽⁶⁾ to a standard which meets health & safety requirements
7. demonstrate production and installation processes which comply with health & safety requirements
8. handle potentially **hazardous materials**⁽⁷⁾ in a manner which complies with health & safety requirements
9. take **precautionary actions**⁽³⁾ during work activities to ensure the safety of **customer's property**⁽⁸⁾
10. comply with hazard warning and **prohibition notices**⁽⁹⁾ in work locations

RANGE:

(1) Health & safety legislation	as appropriate to your status (employee), your work and your job role
(2) Other persons	Private client/customer, whether tenant or owner Main contractor's representative Representatives of inspectorates Co-contractor
(3) Precautionary actions	warning notices wearing protective personal equipment permit to work
(4) Work locations	the specific area where you work, immediate or remote locations
(5) Risk assessments	comply with or produce
(6) Tools and equipment	maintain in line with health and safety requirements and good housekeeping

(7) Potentially hazardous materials	identify/handle/disposal
(8) Customer's property	safeguard protect
(9) Hazard warning & prohibition notices	recognition compliance

Knowledge and Understanding - this is what you must know:

- a) the general responsibilities of the employer and employee for ensuring safety in the work place
- b) the requirements of safety legislation for the range of work operations
- c) the potential hazards or risks associated with the range of work locations in which work on systems is undertaken, the measures to be taken to reduce risk
- d) general measures to be taken to create safety awareness – company on site policies – applying and supervising site safety practices including measures to report potential safety hazards
- e) accident reporting procedures and basic first aid procedures
- f) how to produce general risk assessments and how to apply them in the workplace
- g) safe practices when carrying out work on the range of systems and components
- h) the range of tools and equipment for installation or maintenance work – their safe use – maintenance requirements – safety equipment.
- i) the range of tools and equipment whose use is controlled by legislation.
- j) methods of identifying and the range of potentially hazardous materials used for system installation or maintenance work including asbestos.
- k) safety precautions including the use of personal protective equipment.
- l) the legislation or recommendations governing the safe use or disposal of hazardous materials.
- m) the methods of protecting customers property within the range of locations in which system installation or maintenance work is carried out.
- n) how to liaise with the customer, pre-work inspection, reporting existing damage or identifying damage arising from work operations
- o) the procedures for summoning the different emergency services. The information
- p) required by the emergency services to permit them to respond promptly
- q) the range of fire extinguishers used for different types of fire and how to extinguish small fires in a safe manner
- r) typical evacuation procedures for work locations in which system installation or maintenance work may be carried out

REV.	Final	DATE	01.12.2003
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UNIT 8 - DEVELOP & MAINTAIN EFFECTIVE WORKING RELATIONSHIPS WITH OTHERS FOR OIL-FIRED RELATED WORK.

Overview

This unit requires you show you can develop effective working relationships.

This unit covers working with others, communication of information & development and maintenance of effective working relationships with others in the workplace.

This Unit is a single element Unit.

You must be able to: -

- treat others in a courteous manner and ensure your appearance and behaviour matches your organisation's standards
- respond effectively to requests for job information from others in the workplace
- use a range of methods of communication to pass job information to others in the workplace
- develop effective working relations with relevant people in the workplace

Performance Criteria - this is what you must do:

- (1) treat **relevant people**⁽¹⁾ in a courteous and helpful manner, especially when working under pressure
- (2) maintain your personal appearance and behaviour consistently and in accordance with organisational standards
- (3) actively seek opportunities for improving working relationships with **relevant people**⁽¹⁾
- (4) respond effectively to requests for **job information**⁽²⁾ from others in the workplace
- (5) use a range of **methods of communication**⁽³⁾ to pass **job information**⁽²⁾ to others in the workplace
- (6) ensure your own behaviour consistently conveys a positive image of the organisation to current and potential **relevant people**⁽¹⁾

RANGE:

(1) relevant people	Private client/customer, whether tenant or owner Main contractor's representative Representatives of Inspectorates Co-contractor
(2) Job information	Related to current job Related to company/organisation
(3) Methods of communication	Oral, written, electronic as appropriate to suit purposes

Knowledge and Understanding - this is what you must know:

- a) the range of other people encountered within the work environment with whom it may be necessary to establish working relationships.
- b) the roles and responsibilities of those with whom you need to deal during the course of your work.
- c) the types of job information that may be requested by others in the workplace – sources of information – methods of accessing information and possible restrictions on passing information to others.
- d) the forms of communication used for the range of job or company information best suited to its purpose – using the key principles of good communication in work situations, including methods of confirming that the communication has been understood.
- e) the actions that are necessary to begin, develop, and maintain good working relationships, or restore working relationships.
- f) the principles of good working relationships and reasons why relationships may break down and the actions to take to restore working relationships where a breakdown occurs
- g) your organisation's service standards and standards for appearance and behaviour
- h) ways of creating opportunities to enhance working relationships with others and appropriate site behaviour

UNIT 11 - INSTALL OIL STORAGE AND SUPPLY SYSTEMS [DOMESTIC]

Overview

This unit requires that you show you can install and connect oil pipework supply systems and the installation of oil storage systems in a domestic/light commercial setting.

This Unit measures your ability to prepare and undertake the installation of oil storage and pipework supply systems whilst complying with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards, manufacturers' instructions and either the Environment Agency for England, Wales and Northern Ireland or the Scottish Environment Protection Agency in Scotland

This Unit consists of three elements:

11.1 PREPARE FOR INSTALLATION:

For this element you must be able to:-

- ensure that materials and fittings selected are appropriate
- quantities of materials required are correctly estimated
- survey work area for installation
- identify the suitability of the location for tank installation
- check the provision of the tank and ancillary components

11.2 INSTALL OIL-FILLING AND PIPEWORK SUPPLY SYSTEMS:

For this element you must be able to:-

- check the proper position for the outlet pipe
- provide adequate insulation
- ensure provision is made for a good flow rate

11.3 INSTALL AND CONNECT OIL STORAGE SYSTEMS:

For this element you must be able to:-

- install tank storage systems and components to meet criteria specified
- connect services to installed system and components
- work in a safe methodical manner
- ensure that the recognised statutory regulations, industry codes of practice, British standards, Building Regulations and Standards and manufacturers' instructions are complied with throughout the operation

REV.	Final	DATE	01.12.2003
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NOTE: This Unit does not involve constructing the support and foundations for the tank, that is the subject of a separate trade.

REV.	Final	DATE	01.12.2003
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ELEMENT 11.1 PREPARE FOR INSTALLATION

Performance Criteria – this is what you must do:

1. install and select fittings of the dimension and nature for the tank and appliance appropriate to its usage
2. identify the best location for pipework, valves and related materials
3. select and use materials which
 - meet operating conditions
 - are compatible with appliance category and fuel type
 - are in accordance with manufacturers' instructions
4. establish the requirements for jointing and select materials accordingly
5. accurately estimate all required quantities of materials and their availability
6. complete a risk assessment prior to preparatory work for the tank installation
7. identify :
 - a location for the tank that is safe and meets statutory regulations, industry codes of practice, British Standards, Building regulations and Standards and manufacturers' instructions
 - a tank of the appropriate design and capacity
8. assess the requirements and feasibility for remote filling
9. select appropriate containments and associated components of the right dimensions
10. carry out appropriate moisture prevention procedures as necessary
11. ensure that external surfaces of tanks are clean, free from rust, oil or grease and protected with appropriate surface coatings

ELEMENT 11.2 INSTALL OIL FILLING AND PIPEWORK SUPPLY SYSTEMS

Performance Criteria – this is what you must do:

1. carry out checks to ensure the proper location of the outlet pipe
2. identify, position and fit system components appropriate to the specification of the storage system
3. provide sufficient insulation of tanks, pipework and filters to ensure:
 - protection to the components
 - an adequate fuel flow rate
 - adequate fuel temperatures
4. check that the fuel supply system gives adequate flow rate and pressure as specified by the appliance manufacturer

ELEMENT 11.3 INSTALL AND CONNECT OIL STORAGE SYSTEMS

Performance Criteria – this is what you must do:

1. carry out an on site visual inspection of the tank to ascertain it is of the correct type, design, capacity and condition for its usage
2. where necessary, carry out damp proof procedures prior to lowering of tank and ensure that the tank is positioned on the supports in accordance with manufacturers' requirements
3. position and fix extended vent pipework to enable the safe installation of the tank
4. install and connect the tank in accordance with statutory regulations, industry codes of practice, British Standards, Building Regulations and Standards and manufacturers' instructions
5. carry out appropriate identification procedures with product identification labels and tags
6. conduct necessary tests to check that the tank and associated fuel pipework
 - is installed in accordance with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
 - is able to be filled safely
 - meets the standard for pressure
7. pipework and ancillary components are filled and tested in accordance with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
8. report and record all environmental incidents promptly and accurately to the appropriate environmental body

RANGE:

(1) Tank fittings	valves, pipes, gauges and other associated components
(2) Oil supply systems	single pipes, two pipes
(3) Types of tank	tanks to suit domestic or light commercial uses

REV.	Final	DATE	01.12.2003
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Knowledge and Understanding – this is what you must know:

- a) common oil storage and supply systems appropriate to domestic and light commercial usage and the implications of inappropriate usage
- b) the different type of materials used for oil pipework appropriate to such usage
- c) factors influencing oil supply pipe size
- d) appropriate forms of fitting and jointing materials including petroleum-resisting compounds and insulating materials
- e) relevant British standards for a product identification system for petroleum products
- f) appropriate fill and vent pipe diameters, couplings, location and fitting procedures for different size tanks including extended fill and vent pipes
- g) what is acceptable tank support
- h) relevant statutory regulations, building regulations and standards, industry codes of practice, British standards and manufacturers' instructions applying to tank construction, installation and applying to internal, external and underground tank location
- i) the different storage capacities of tanks in relation to system requirements and appliance ratings
- j) appropriate fill and vent pipe diameters, couplings, location and fitting procedures for different size tanks including extended fill and vent pipes
- k) the normal access and maintenance requirements for specific types of tanks
- l) the uses of associated components such as electronic and manual gauges, alarms/warnings devices, fill pipes, couplings, and whether those selected meet industry requirements for the design of tank selected
- m) when tank inclination is important and industry recommendations
- n) how to ensure moisture prevention and anti-corrosion procedures for steel tanks
- o) the importance of getting the location right in terms of access, maintenance and meeting industry standards for specific types of tanks
- p) what are adequate fuel flow rates and how to ensure that insulation provision is adequate
- q) appropriate environmental, health and safety requirements for tank installation including fire protection standards, containment requirements in relation to tank capacity, control of pollution regulations including from environmental agencies and fire protection
- r) the methods for reporting environmental incidents issued by the appropriate Environment bodies.

REV.	Final	DATE	01.12.2003
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UNIT 11a - INSTALL OIL STORAGE AND SUPPLY SYSTEMS [COMMERCIAL/INDUSTRIAL]

Overview

This unit requires that you show you can install and connect oil pipework supply systems and the installation of oil storage systems in a large commercial/industrial setting.

This Unit measures your ability to prepare and undertake the installation of oil storage and pipework supply systems whilst complying with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards, manufacturers' instructions and either the Environment Agency for England, Wales and Northern Ireland or the Scottish Environment Protection Agency in Scotland

This Unit consists of three elements:

11A.1 PREPARE FOR INSTALLATION:

For this element you must be able to:-

- ensure that materials and fittings selected are appropriate to their usage
- quantities of materials required are estimated appropriately
- survey work area for the installation
- identify the suitability of the location for tank installation
- check the provision of the tank and ancillary components

11A.2 INSTALL OIL-FILLING AND PIPEWORK SUPPLY SYSTEMS:

For this element you must be able to:-

- check the proper position for the outlet pipe
- provide adequate insulation
- ensure provision is made for a good flow rate

11A.3 INSTALL AND CONNECT OIL STORAGE SYSTEMS:

For this element you must be able to:-

- install tank storage systems and components to meet criteria specified
- connect services to installed system and components
- work in a safe methodical manner
- ensure that the recognised statutory regulations, industry codes of practice, British standards, Building Regulations and Standards and manufacturers' instructions are complied with throughout the operation

REV.	Final	DATE	01.12.2003
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NOTE: This Unit does not involve constructing the support and foundations for the tank, that is the subject of a separate trade.

ELEMENT 11a.1 PREPARE FOR INSTALLATION

Performance Criteria – this is what you must do:

1. install and select fittings of the dimension and nature for the tank and appliance appropriate for its usage
2. identify the best location for pipework, valves and related materials
3. select and use materials which
 - meet operating conditions
 - are compatible with appliance category and fuel type
 - are in accordance with manufacturers' instructions
4. establish the requirements for jointing and select materials accordingly
5. accurately estimate all required quantities of materials and their availability
6. complete a risk assessment prior to preparatory work for the tank installation
7. identify :
 - a location for the tank that is safe and meets statutory regulations, industry codes of practice, British Standards, Building regulations and Standards and manufacturers' instructions
 - a tank of the appropriate design and capacity
8. assess the requirements and feasibility for remote filling
9. select appropriate containment and associated components of the right dimensions
10. carry out appropriate moisture prevention procedures as necessary
11. ensure that external surfaces of tanks are clean, free from rust, oil or grease and protected with appropriate surface coatings

ELEMENT 11a.2 INSTALL OIL FILLING AND PIPEWORK SUPPLY SYSTEMS

Performance Criteria – this is what you must do:

1. carry out checks to ensure the proper location of the outlet pipe
2. identify, position and fit system components appropriate to the specification of the storage system
3. provide sufficient insulation of tanks, pipework and filters to ensure:
 - protection to the components
 - an adequate fuel flow rate
 - adequate fuel temperatures
4. check that the fuel supply system gives adequate flow rate and pressure as specified by the appliance manufacturer

ELEMENT 11a.3 INSTALL AND CONNECT OIL STORAGE SYSTEMS

Performance Criteria – this is what you must do:

1. carry out an on site visual inspection of the tank to ascertain it is of the correct type, design, capacity and condition for its use
2. where necessary, carry out damp proof procedures prior to lowering of tank and ensure that the tank is positioned on the supports in accordance with manufacturers' requirements
3. position and fix extended vent pipework to enable the safe installation of the tank
4. install and connect the tank in accordance with statutory regulations, industry codes of practice, British Standards, Building Regulations and Standards and manufacturers' instructions
5. carry out appropriate identification procedures with product identification labels and tags
6. conduct necessary tests to check that the tank and associated fuel pipework
 - ♦ is installed in accordance with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
 - ♦ is able to be filled safely
 - ♦ meets the standard for pressure
7. pipework and ancillary components are filled and tested in accordance with relevant statutory regulations, Building regulations and Standards, industry codes of practice, British standards and manufacturers' instructions
8. report and record all environmental incidents promptly and accurately to the appropriate environmental body

RANGE:

(1) Tank fittings	valves, pipes, gauges and other associated components
(2) Oil supply systems	single pipes, two pipes
(3) Types of tank	tanks to suit large commercial or industrial usage

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Knowledge and Understanding – this is what you must know:

- a. common oil storage and supply systems appropriate to large commercial or industrial usage and the implications of inappropriate usage
- b. the different type of materials used for oil pipework appropriate to such usage
- c. factors influencing oil supply pipe size
- d. appropriate forms of fitting and jointing materials including petroleum-resisting compounds and insulating materials
- e. relevant British standards for a product identification system for petroleum products
- f. appropriate fill and vent pipe diameters, couplings, location and fitting procedures for different size tanks including extended fill and vent pipes
- g. what is acceptable tank support
- h. relevant statutory regulations, building regulations and standards, industry codes of practice, British standards and manufacturers' instructions applying to tank construction, installation and applying to internal, external and underground tank location
- i. the different storage capacities of tanks in relation to system requirements and appliance ratings
- j. appropriate fill and vent pipe diameters, couplings, location and fitting procedures for different size tanks including extended fill and vent pipes
- k. the normal access and maintenance requirements for specific types of tanks
- l. the uses of associated components such as electronic and manual gauges, alarms/warnings devices, fill pipes, couplings, and whether those selected meet industry requirements for the design of tank selected
- m. when tank inclination is important and industry recommendations
- n. how to ensure moisture prevention and anti-corrosion procedures for steel tanks
- o. the importance of getting the location right in terms of access, maintenance and meeting industry standards for specific types of tanks
- p. what are adequate fuel flow rates and how to ensure that insulation provision is adequate
- q. appropriate environmental, health and safety requirements for tank installation including fire protection standards, containment requirements in relation to tank capacity, control of pollution regulations including from environmental agencies and fire protection
- r. the methods for reporting environmental incidents issued by the appropriate Environment bodies.