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National Occupational Standards for Chemical, Pharmaceutical and Petro-chemical Operations

Technical Support

Approved by UKCG May 2005



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



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Unit 3.10 : Emergency procedure

This unit addresses the competence required to comply with site/plant emergency procedures. This involves:

- raising the alarm once an emergency has been identified
- informing others
- minimising the effect of an emergency
- maintaining your own and other's safety while working

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

3.10.1 Raise the alarm on discovering an emergency

3.10.2 Minimise the effect of an emergency

Element 3.10.1 Raise the alarm on discovering an emergency

Performance statements

In achieving this unit you must:

- a. Activate the appropriate **alarm** on discovering the **emergency**
- b. Take **action** appropriate to the **emergency**
- c. Check the location and type of the **emergency**
- d. Provide accurate details on nature and location of the **emergency** to emergency services
- e. If necessary, alert other people to the **emergency**
- f. Try to ensure that people do not panic
- g. **Communicate** with relevant people
- h. Follow safe working procedures at all times

Knowledge and Understanding

- i. the methods of raising the alarm
- ii. why it is important to take action which is appropriate to the emergency
- iii. the consequence of taking no action
- iv. what type of action to take
- v. why it is important to check on the location of the emergency
- vi. how to provide clear and accurate details on the nature and location of the emergency
- vii. when and how to alert other personnel to the emergency
- viii. methods to try to stop panic
- ix. why it is important to communicate with relevant others
- x. methods of communication to use
- xi. why it is important to try to follow safe working procedures

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Element 3.10.2 Minimise the effect of an emergency

Performance statements

In achieving this unit you must:

- a. Take **action** appropriate to the **emergency**
- b. Ensure any **action** is taken promptly
- c. **Communicate** with others during the **emergency**
- d. Try to ensure that panic is minimised
- e. Assess the **risk** to yourself and others of trying to contain the **emergency**
- f. If the **risk** is not increased take appropriate **action** by following the correct procedure
- g. Minimise the effect on the **environment** by using appropriate techniques
- h. Comfort and reassure any casualties in the **emergency**
- i. Give a full and accurate report of the **emergency**
- j. Work safely at all times

Knowledge and Understanding

- i. the importance of taking the appropriate action
- ii. the importance of taking immediate action
- iii. the consequences of not taking immediate action
- iv. methods of communicating during an emergency
- v. ways to minimise panic
- vi. why it is important to contain the emergency
- vii. how to assess the risk of containing the emergency
- viii. methods of containing emergencies
- ix. why it is important to assess the risk to the environment
- x. how to minimise environmental damage
- xi. how to comfort and reassure casualties
- xii. why it is important to give a full and accurate report of the incident
- xiii. what your personal responsibilities are with regard to health, safety and environment

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Emergency

Emergencies could include:

- fire
- release/spillage of materials
- explosion
- discovery of suspect package
- discovery of injured person
- accident involving person/equipment
- major services failure

Raising the alarm

This could be done by :

- mechanical/electrical means
- notifying someone else
- shouting

Action

Other actions to be taken could include:

- emergency shut down of the plant



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- evacuation of the plant
- notifying other people
- assessing risk
- emergency first aid
- shut down of the operation

Materials	May include solids, liquids and gases.
Equipment/plant	This may include any equipment/plant where there is some interaction between items and/or people
Problems	These can relate to either personnel and/or equipment.
Documentation	Including that relating to emergencies, including reports and any other relevant documentation.
Health, safety & environmental legislation	To include relevant legislation and company policy.
Assess the hazard	To assess the likelihood of harming yourself and/or others by taking some form of action.
Communication/ Communicate	May include spoken, written and/or electronic

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is acceptable in the assessment of this unit to cover the full scope of the unit as defined by the glossary.

Commentary for Unit 1.13:

Working effectively in a team

This unit addresses the competence required to work with others. This involves:

- those working in isolation, who need to communicate with others
- those working in groups
- accepting and clarifying responsibilities
- providing and receiving support and feedback
- working in ways which maintain your own and other's safety

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

1.13.1 Determine and agree individual responsibilities in working with others

1.13.2 Complete work activities in conjunction with others

1.13.3 Provide and receive support and feedback

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There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Responsibility	That which is given by the appropriate authority
Authority activities	This gives the individual/s, permission to perform the activities
Personnel/work situation	This may include one, or a combination of: <ul style="list-style-type: none"> • one to one • group/team work • where disagreement occurs • on person to a group situation
Communicate	This may include all forms of communication including: <ul style="list-style-type: none"> • spoken • written • electronic
Documentation	This may include all types of documentation that may be used in the organisation, in relation to the activity.
Corrective action	To be aware of potential hazards involved in the process, and take corrective action when necessary, including emergency shutdown.
Problems	These include those encountered with either plant/equipment/materials/and/or personnel.
Feedback/Support	Assistance given or received within the organisation. All forms of feedback and support should be constructive.
Health, Safety and Environmental legislation	To be aware of all relevant legislation.

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ELEMENT 1.13.1 Determine and agree individual responsibilities in working with others

In carrying out this work you must:

1. Check that you have the required **authority** to complete the required activity
2. Check whether you need to inform others who may be affected by this activity
3. If required, **communicate** with others by the appropriate method
4. Check that all **personnel** have received the necessary information
5. Check that all **personnel** understand and agree to their responsibilities
6. Deal promptly with any **problems** that arise, that are your **responsibility**
7. For **problems** that you cannot solve and/or are not your **responsibility** inform the appropriate person/s
8. Follow safe working procedures at all times
9. Work within agreed time schedules
10. Complete any required **documentation** clearly and accurately

To do this you need to know

- a) the definition of authority and responsibility within the organisation
- b) how to check whether you have the required authority
- c) your personal responsibility in the operation
- d) how to check whether others need to be informed
- e) methods of communication within the organisation
- f) how to check that all parties understand what is required of them (if required)
- g) your personal responsibilities with regard to health, safety and environment
- h) what typical problems may arise and how to deal with them
- i) who to inform if you cannot solve the problem and/or it is not your responsibility
- j) the importance of keeping to agreed time schedules
- k) what documentation to use and what information needs to be recorded

ELEMENT 1.13.2 Complete work activities in conjunction with others

In carrying out this work you must:

1. Check that you understand the work activity
2. Ensure that you know and understand your **responsibility** in the activity
3. Check, when required, that all other **personnel** understand their responsibilities
4. Ensure that the activity proceeds as planned
5. Keep other relevant **personnel** informed of the progress of the activity
6. Deal promptly with any **problems** in the activity that are your responsibility

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7. Take appropriate **action** when disagreement occurs
8. Inform the appropriate person of any **problems** you cannot solve and/or are not your **responsibility**
9. Work safely at all times with regard to material, equipment and personal safety
10. Use appropriate methods of **communication**

To do this you need to know

- a) the method of work activity planned
- b) what your responsibilities are in the activity
- c) why it is important that all personnel understand what is required of them
- d) methods of monitoring the activity
- e) how to keep all relevant personnel informed of the progress of the activity
- f) how to deal with problems that are your responsibility
- g) who to contact if you cannot deal with the problem and/or it is not your responsibility
- h) what actions could be taken when disagreement occurs
- i) your personal responsibilities with regard to health, safety and environment
- j) what methods of communication to use and when to use them

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ELEMENT 1.13.3 Provide and receive support and feedback

In carrying out this work you must

1. Ensure that all **personnel** know their responsibilities
2. Use appropriate methods of **communication** to keep all **personnel** informed
3. Identify when assistance is required
4. Give assistance when required if it is within the limit of your **authority**
5. Deal with any **problems** effectively, if they are your **responsibility**
6. Inform the appropriate person when you cannot solve a **problem** and/or it is not your **responsibility**
7. Give constructive **support** and **feedback** to appropriate **personnel**
8. Receive **support** and **feedback** from **personnel**
9. Follow safe working procedures at all times
10. Complete any **documentation** clearly and accurately

To do this you need to know

- a) the meaning of responsibility and authority in the organisation
- b) methods of communication within the organisation
- c) how to identify when assistance may be required
- d) how to give assistance within your limit of authority
- e) why it is important to give constructive feedback and support in the operation
- f) how to give constructive feedback and support within the organisation
- g) why it is important to deal with problems effectively
- h) who to inform if you cannot solve the problem and /or it is not your responsibility or within your limit of authority
- i) what your personal responsibilities are with regard to health, safety and environment
- j) what documentation needs to be completed
- k) the importance of completing documentation/records accurately and clearly

Commentary for Unit 1.12:

Handover

This unit addresses the competence required to handover operational responsibility, materials and/or information to others in the workplace. This involves:

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- completion of handover information
- communication with incoming operator/s
- maintaining the operation of the equipment during handover
- accepting and confirming responsibility taken over
- maintaining your own and other's safety while working

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

- 1.12.1 Follow handover procedure
- 1.12.2 Confirm responsibility accepted

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Materials	May include solids, liquids and gases.
Operating instructions out,	The set of instructions which describe the work to be carried out, including details of the operating parameters.
Operating parameters place	The conditions under which the processing should take place
Handover	The handing over of operational responsibility
Handover situation	May include some or all of the following: <ul style="list-style-type: none"> • at the end of a shift • during a shift at an appropriate point • illness • accident • emergency situation • exchange of responsibility during an operating procedure • exchange of information during an operating procedure • transfer of materials during an operating procedure
Handover method	May include some or all of the following methods: <ul style="list-style-type: none"> • written handover • verbal handover • electronic handover
Equipment/plant interaction	This may include equipment/plant where there is some interaction between items and/or people. Also may include a number of parameters within the operator's control, and some control instrumentation. Typical equipment within workplace area may include: <ul style="list-style-type: none"> • chemical reactors • addition tanks • phase separators • receiving vessels • pipework and pumps • film coaters • solution make-up vessels • filters and spray equipment
PPE necessary.	Personal protective equipment to be specified, when necessary.

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PTW continue with the	May include permit to work. Authority to start, and/or operation or the equivalent. Process type Batch and/or continuous processing. The following types may be included: <ul style="list-style-type: none"> • batch operations, where there are a number of batch operations running simultaneously, and also a multi-staged batch operation. . • continuous operations, such as reaction, recovery, separation and purification processes, mixing, granulating, drying and compressing.
Problems	These can relate to either personnel, materials, equipment , operating instructions and/or specifications. Where a problem requires another person, the person would be expected to report the problem to the person who has the necessary authority to deal with it.
Corrective actions	May include adjust, request assistance or shutdown.
Documentation	Including that relating to handover, and any other relevant documentation.
Conditions	Control of conditions may include: temperature, flow, humidity, pressure, ph , density and level
Responsibility confirm that	To be in charge of a certain operation, and accept and responsibility
Confidentiality have it.	Only providing information to those who are authorised to
Communicate	To include spoken, written and/or electronic.
Health, safety & environmental legislation	To include all relevant legislation and company policy.

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ELEMENT 1.12.1 Follow handover procedure

In carrying out this work you must:

1. Check that you know the required **handover method**
2. Check that if required, you have the necessary **PTW** or equivalent
3. Check that you are aware of the current **handover situation**
4. Check that the **handover** time is correct
5. Ensure that you complete any relevant handover **documentation** clearly and accurately
6. Check and confirm that the information contained in the **handover situation** is correct
7. Ensure that all relevant **handover** information is given to the incoming operator
8. **Handover** at the correct time and place
9. Maintain safe and effective operation of the **equipment** during **handover**
10. Wear appropriate **PPE**
11. **Communicate**, if required, with relevant personnel
12. Deal promptly with any **problems** that arise, reporting any which you cannot solve and/or are not your responsibility
13. Follow safe working procedures at all times

To do this you need to know

- a) handover methods, and specifically the one to be used in the operation
- b) what the current handover time and handover situation is
- c) the importance of the correct handover time and method
- d) why it is important to complete all documentation clearly and accurately
- e) the consequences of not checking and confirming handover information
- f) why it is important to give the incoming operator all relevant information
- g) the importance of knowing the correct time and place for the handover
- h) how to maintain safe and effective operation of equipment during handover
- i) the importance of communication, keeping others informed during the operation
- j) your personal responsibilities with regard to health, safety and environment
- k) what personal protective equipment to use and why
- l) the types of problems that can occur and how to recognise and deal with them
- m) who to contact if there is an unsolvable problem and/ or it is not your responsibility

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ELEMENT 1.12.2 Confirm responsibility accepted

In carrying out this work you must:

1. Check that you have the correct **handover** information
2. Check that you can interpret and understand the **handover** information
3. Clarify any concerns over the **handover** information with the appropriate person
4. Check that you have any relevant **documentation** that you may need to proceed
5. Complete any relevant **documentation** clearly and accurately
6. Check that any information is recorded correctly at time of **handover**
7. **Accept** and confirm **responsibility**, by appropriate method, after **handover** of information, responsibility and / or materials has taken place
8. **Communicate** if required with relevant personnel
9. Check that the **PTW** or equivalent, is complete (if necessary)
10. Wear appropriate **PPE**
11. Deal promptly with any **problems** in the procedure that are your responsibility
12. Inform the appropriate person of any **problems** you cannot solve and/or are not your responsibility
13. Work safely at all times
14. Ensure that security and **confidentiality** is observed where necessary

To do this you need to know

- a) the importance of confirming that you have the correct handover information
- b) how to interpret handover information
- c) why it is important to clarify any points
- d) what documentation may need to be obtained before proceeding
- e) why it is important to complete any documentation clearly and accurately
- f) methods of accepting and confirming responsibility
- g) why it may be important that the permit to work is complete
- h) why it is important to complete documentation clearly and accurately
- i) methods of communication
- j) what problems may occur in the operation and how to deal with them
- k) who to report to with unsolvable problems and/or those which are not your responsibility
- l) your personal responsibilities with regard to health, safety and environment
- m) when and why PPE needs to be worn
- n) when it may be important to observe security/confidentiality

Commentary for Unit 4.1:

Develop and monitor plans and procedures



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This unit is a tailored version of a LATA unit produced by the ST & M Council and was originally designated Unit 3.

This unit is for those with responsibility for the creation and monitoring of quality procedures for the technical activity such as sampling or testing. The overall quality requirements may have been outlined in a technical plan but this unit deals with the implementation of particular quality assurance and control arrangements. It is not intended to cover the purely developmental work in areas such as research and development and is not intended to cover the full role of a quality assurance manager. It is designed for technical experts inside the organisation who define procedures and ensure the technical rigour of the experts inside the organisation who define procedures and ensure the technical rigour of the process. In certain contexts monitoring plans may be one-off with no follow through into large-scale production but there must still be specific procedures put in place to ensure reproducibility of results.

Quality procedures may be developed or adapted from existing procedures or existing complete quality assurance procedures assessed for their suitability and adopted unchanged. They may include quality control and quality assurance arrangements.

This unit states the competence required in:

- establishing what quality procedures will meet customer requirements
- defining the procedures which will deliver a valid and consistent result
- monitoring and evaluating the quality process
- adjusting procedures to maintain the integrity of the quality system.

Possible contexts in which this competence could be used include:

- developing a new laboratory procedure
- adapting existing quality procedures to enhance reliability of sampling process
- ensuring quality assurance and control procedures used in a manufacturing process are correlated with national standards.

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.1.1 Develop an overall quality plan

4.1.2 Monitor quality procedures

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There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Responsibility	That which is given by the appropriate authority.
Procedures	This is the set of instructions which describe the work to be carried out according to standard operating procedure/s and/or company policy.
SOP	Standard operating procedure. The set of instructions that describe the operational requirements for the work to be carried out, including details of the operating instructions/methods. If followed, the required organisational objectives should be more easily achieved in the following areas: <ul style="list-style-type: none"> • quantity • quality • cost • time • safety, health and environment
Requirements	The agreed outcomes necessitated by the customer.
Strategies	The plan of action and / or policy to be used to achieve the required outcome.
Methods	The set systems to follow to achieve the required outcome.
Criteria	This is the guideline/s given, appropriate to the task which should be met.
Documentation	Includes any relevant documentation.
Health, Safety and Environmental legislation	To be aware of all relevant legislation.

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ELEMENT 4.1.1 Develop an overall quality plan

In carrying out this work you must:

1. Clarify and agree customer **requirements** for quality
2. Clearly define **responsibilities** for ensuring quality
3. Define procedures to ensure quality of service
4. Determine monitoring arrangements
5. Make sure **documentation** meets quality **requirements**
6. Identify and resource competence and training **requirements**

To do this you need to know

- a) ways of eliciting and recording customer quality requirements
- b) procedures for protecting customer confidentiality
- c) procedures for ensuring the quality of the service including: statistical techniques; repeat testing; inter laboratory testing; peer review; comparison with standards precision.
- d) appropriate monitoring arrangements including: representativeness of sample; reliability of test results; availability of national standards; recording and traceability procedures; reproducibility of results; repeatability of procedures; uncertainty of measurement; inter-comparison of test instruments and laboratories.
- e) ways of ensuring calibration status and certification of equipment
- f) document control procedures and reporting arrangements
- g) relevant standards and standard operating procedures

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ELEMENT 4.1.2 Monitor quality procedures

In carrying out this work you must:

1. Maintain planned integrity and validations **strategies**
2. Adopt appropriate **methods** to ensure the quality, validity and authenticity of results
3. Evaluate the effectiveness of quality systems against appropriate **criteria**
4. Adjust techniques and record on current **documentation**

To do this you need to know

- a) validation criteria
- b) required levels of accuracy and precision
- c) procedures for recording and retrieving data
- d) appropriate standards
- e) acceptable tolerances and variances
- f) alternative methods of retesting
- g) safety, health and environmental requirements for test monitoring
- h) ways of evaluating the effectiveness of quality criteria including: against aims and objectives; accuracy of quality assurance outcomes; cost and time factors; alternative procedures; human factors; reproducibility of results; rules for retesting; compliance with standards and controls

Commentary for Unit 4.4:

Solve operational problems

This unit addresses the competence required to solve production problems. This involves:

- identification of deviations from the norm
- collation of information
- action to minimise loss/damage
- trying to solve the problem promptly
- maintaining your own and other's safety while working

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.4.1 Identify and limit consequences of production problems

4.4.2 Diagnose faults/causes and select solutions to production problems

4.4.3 Implement and evaluate chosen solutions

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There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation will only be considered relevant and acceptable in the rare or dangerous occurrences* (see below) in the assessment of this unit, to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for the rest of unit.

- *• health, safety and environmental issues
- emergency scenarios
- rare occurrences at work

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Materials May include solids, liquids and gases.

Operating instructions/ and/or specification

The set of instructions which detail the process and the quality/quantity/time outcomes for the operation. Including normal operating parameters.

Equipment/plant
interaction

This may include equipment/plant where there is some interaction between items and/or people. PPE to be specified, when necessary.

Problems
materials

These can relate to either materials, equipment and/or specifications. Typical production problems may include:

- product contamination
- loss of yield
- equipment damage
- non-achievement of specified quantity/time and/or quality requirements
- health/safety/environmental problems.

Investigative methods To find the solution some or all of the following may be used:

- interviewing
- inspecting
- testing of materials
- testing of equipment
- trying out solutions

Solution
changes
organisation.

These could include making system adjustments and yourself, or may need the assistance of other's with the organisation.

Authority

That which is given to the person responsible for the operation.

Documentation

Includes any relevant reports/records/recommendations and any other documentation.

**Communication/
Communicate**

Methods to include individually or in groups, either

- written
- spoken
- electronic



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Recommendations

These may include some or all of the following:

- improving quality
- improving quantity
- reducing costs
- safety aspects
- environmental aspects
- improving time scales

Health, safety and environment To include all relevant legislation

PPE Personal Protective Equipment, to be specified when necessary



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ELEMENT 4.4.1 Identify and limit consequences of production problems

In carrying out this work you must:

1. Check that you have the required **operating instructions** and that they are clear and complete
2. Check that the **plant/equipment** which is being used is in a safe and functional condition
3. Ensure that the normal operating parameters have been established
4. Respond quickly to the situation
5. Identify where in the process the **problem** has occurred
6. Take appropriate action to minimise loss and damage in the process
7. **Communicate** and inform other personnel when necessary
8. Identify any **problems** in the process
9. Accurately record the **problems** in the process
10. Wear **PPE** if necessary
11. Follow safe working procedures at all times
12. Complete **documentation** accurately

To do this you need to know

- a) the meaning of terms used in operating instructions and/or specifications
- b) the importance of normal operating parameters
- c) the functions and uses of the different types of equipment used in the operation and how to confirm status of plant/equipment
- d) the types of problems that can occur and how to recognise them
- e) what corrective action to take on discovering defective conditions, materials and/or equipment
- f) the importance of a quick response to a situation
- g) what action to take to minimise loss and damage in the process
- h) when it is important to communicate with others and keep them informed
- i) how to handle equipment safely in ways that protect yourself and others from risk
- j) your personal responsibilities with regard to health, safety and environment
- k) what personal protective equipment to use and why
- l) what documentation needs to be used and how to complete it

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ELEMENT 4.4.2 Diagnose faults/causes and select solutions to production problems

In carrying out this work you must:

1. Investigate the **problem** thoroughly
2. Check that the process was operating under normal parameters
3. Check that the **plant/equipment** was functioning correctly, within recommended limits
4. Identify possible faults/causes of the **problem**
5. Obtain all relevant information to help the investigation
6. **Record** all relevant information accurately
7. Use appropriate **investigative** methods to find **solution/s** to the problem
8. **Investigate** and assess the **solution/s** to the **problem**
9. Recommend and select the most likely **solution** to the **problem**
10. **Communicate** and inform others when necessary
11. Wear **PPE** if necessary
12. Work safely at all times with regard to **material, equipment** and personal safety
13. Complete any necessary **documentation** accurately

To do this you need to know

- a) why it is important to investigate thoroughly
- b) what types of problem may occur
- c) why it is important to check that normal parameters were in operation
- d) why it is important to check the functioning of plant and equipment, within recommended limits
- e) how to identify possible faults/causes of the problem
- f) the importance of recording information accurately
- g) methods of investigation to identify possible solution/s
- h) how to evaluate solution/s and choose most appropriate solution
- i) the importance of communication throughout
- j) your personal responsibilities with regard to health, safety and environment
- k) when and why PPE needs to be worn
- l) methods of documentation that are used

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ELEMENT 4.4.3 Implement and evaluate chosen solutions

In carrying out this work you must:

1. Ensure that you have the necessary **authority** to implement the **solution/s**
2. Implement the chosen **solution/s** with a minimum amount of disruption to the process
3. Ensure that any subsequent **loss /damage** is kept to a minimum
4. Keep accurate **records** throughout the implementation of the chosen **solution/s**
5. **Communicate** with personnel when necessary
6. Monitor the operation and take action appropriately
7. Deal promptly with any **problems** that arise
8. Evaluate all solution/s and make **recommendations** on results obtained
9. Make **recommendations** to the appropriate **authority** to reduce the occurrence of the **problem**
10. If necessary wear appropriate **PPE**
11. Follow safe working procedures at all times
12. Complete any **documentation** correctly

To do this you need to know

- a) the importance of authority within the organisation, and the limits of your authority
- b) how to implement chosen solution/s
- c) how to minimise disruption to the process
- d) why it is important to minimise loss and damage
- e) why it is important to record information accurately
- f) why it is important to monitor the operation
- g) what problems may occur, and how to deal with them
- h) how to evaluate solutions
- i) why it is important to evaluate the solution/s
- j) how to make recommendations clearly and accurately
- k) who to make recommendations to, to ensure that they are followed through
- l) what your personal responsibilities are with regard to health, safety and environment
- m) what documentation needs to be completed and when

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Commentary for Unit 4.5:

Provide technical guidance and support to others

This unit addresses the competence required to provide technical guidance and support to others in the organisation. This involves:

- contributing to technical leadership on processing activities
- providing operational support to users of processing activities
- completing necessary documentation
- maintaining your own and other's safety while working

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.5.1 Contribute to technical leadership

4.5.2 Provide operational support

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

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Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Operational requirement	What is required by the operation to fulfil the requirements.
Operational/work method practice	The preferred method /way of operating according to best and equipment operating instructions.
Procedures of	To include new and/or revised procedures for the operation of equipment/plant. <i>(At least as complex as a single unit operation including related activities such as sampling, testing, cleaning etc.)</i>
Standard Operating Procedure	The set of instructions which describe the operational requirements for the work to be carried out, including details of the operating instructions/methods
Operating/control parameters	The conditions under which the SOP should take place
Operating conditions	Control of conditions may include: temperature, flow, humidity, pressure, density, ph and level
Operational methods the type	May include the different types of operational methods for of plant/equipment or activity to be used.
Equipment/plant interaction	This may include equipment/plant where there is some between items and/or people. Also may include a number of parameters within the operator's control, and some control instrumentation. Typical equipment may include: <ul style="list-style-type: none"> • chemical reactors • addition tanks • phase separators • receiving vessels • pipework and pumps • film coaters • solution make-up vessels • filters and spray equipment
PPE necessary.	Personal protective equipment to be specified, when necessary.
PTW continue with the	May include permit to work. Authority to start, and/or operation or the equivalent.

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Process type/operations may be	Batch and/or continuous processing. The following types included: <ul style="list-style-type: none"> • batch operations, where there are a number of batch operations running simultaneously, and also a multi-staged batch operation. • continuous operations, such as reaction, recovery, separation and purification processes, mixing, granulating, drying and compressing.
Problems	These can relate to either people and or equipment.
Corrective actions	May include adjust, request assistance, replace defective materials or shutdown.
Documentation	Including that relating to drafting , evaluating and obtaining approval, and any other relevant documentation.
Presentation methods	To include written, spoken, individually and/or in teams.
Communication/ Communicate	To include either written, spoken and/or electronic
Authority	The method in an organisation that permission is given to continue and/or proceed.
Personnel	Any other people in the organisation who may be relevant to the process.
Feedback team is	Information given to inform how well the individual and/or performing.
Health, safety and Environmental legislation	To include relevant legislation and company policy.

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ELEMENT 4.5.1 Contribute to technical leadership

In carrying out this work you must:

1. Check that you have accurate details concerning **operational requirements** for the process
2. Analyse the **operational method** used for the process
3. Assess **work methods** and **procedures** for their suitability and technical feasibility
4. Ensure that the objectives of quality, quantity, cost and time are met by the **operational method** used
5. Anticipate potential **problems**
6. Analyse potential **problems** and choose solutions to potential **problems**
7. Select corrective actions to solve the potential **problems**
8. Record all information clearly and accurately using correct **documentation**
9. **Communicate** and share information when necessary
10. Ensure that all relevant **health, safety** and **environmental** considerations are covered
11. Wear **PPE** if appropriate
12. Deal promptly with any actual **problems** that arise, reporting any which you cannot solve and/or are not your responsibility
13. Follow safe working procedures at all times

To do this you need to know

- a) how to obtain details of operational requirements for the process
- b) how to analyse the operational method used
- c) how to analyse and assess work methods
- d) the importance of suitability and technical feasibility in work methods
- e) how to ensure all objectives are met by the method
- f) how to anticipate potential problems
- g) how to analyse the potential problems and choose solutions to the problems
- h) the importance of selecting the appropriate solution/corrective action
- i) how to record all information accurately and clearly
- j) the importance of communication, and of keeping others informed during the operation
- k) the importance of covering all health, safety and environmental considerations

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- l) your personal responsibilities with regard to health, safety and environment
- m) what personal protective equipment to use and why
- n) the types of problems that may occur and how to recognise and deal with them
- o) who to contact if there is an unsolvable problem and/ or it is not your responsibility

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ELEMENT 4.5.2 Provide operational support

In carrying out this work you must:

1. Check that you have information concerning the relevant **operational procedures**
2. Check that the information is accurate and current
3. Record and document information on the **operational procedures**
4. Present information concerning the **operational procedure** in an appropriate method, and a clear and usable format
5. Provide operational support within agreed timescales and working arrangements (by appropriate methods)
6. Obtain **feedback** on the operational support given
7. Analyse **feedback** and if appropriate, take action where necessary
8. **Communicate** with all relevant personnel
9. Record all information accurately using correct **documentation**
10. Wear appropriate **PPE**
11. Deal promptly with any **problems** that arise, reporting any which you cannot solve and/or are not your responsibility
12. Work safely at all times with regard to **materials, equipment** and personal safety

To do this you need to know

- a) Why it is important to check on the details of the operational procedure
- b) the importance of checking that the information is accurate and current
- c) the importance of documenting the information clearly and accurately
- d) methods of presenting the information
- e) why it is important to present the information in a clear and usable format
- f) how to provide operational support within agreed timescales and working arrangements
- g) how to obtain feedback, analyse the feedback, and take action if necessary
- h) the importance of communicating with all relevant personnel
- i) why it is important to keep others informed
- j) who to report to with unsolvable problems and/or those which are not your responsibility
- k) your personal responsibilities with regard to health, safety and environment
- l) when and why PPE needs to be worn

Commentary for Unit 4.2:

Version	Final
Date	May 2005

Contribute to the commissioning and optimisation of new or modified plant, equipment and processes

This unit addresses the competence required to commission and optimise new or modified plant, equipment and processes. This involves:

- confirmation of equipment status
- establishing operating parameters
- commissioning plant, equipment and processes
- optimising plant
- making recommendations for improvement

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.2.1 Commissioning

4.2.2 Optimisation

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Materials	May include solids, liquids and gases.
Methods of movement	These can be either: <ul style="list-style-type: none"> • by mechanical transport(incl fork-lifts,hoists) • by automatic transfer route through the plant • by hand
Operating instructions out,	The set of instructions which describe the work to be carried out, including details of the parameters for commissioning or trials.
Operating parameters place	The conditions under which the commissioning should take place
Optimisation programme could	The programme which aims to optimise performance. This include the optimisation of plant, equipment and/or processes, either as a special project or in the course of normal operating duties.
Equipment/plant interaction	This to include equipment/plant where there is some between items and/or people. Also may include a number of parameters within the operator's control, and some control instrumentation. PPE to be specified, when necessary.
Problems materials	These can relate to either materials, equipment and/or and/or specifications. Where a problem requires a maintenance engineer, the person would be expected to report the problem to a more senior person.
Corrective actions	May include adjust, request assistance or shutdown
Documentation manufacturers	May include test certificates, certificate of acceptance, certificate, operating instructions and any other relevant documentation.
Conditions	Control of conditions may include: <ul style="list-style-type: none"> • temperature • pressure • flow • level • humidity • density • ph
Recommendations	These may include some or all of the following: <ul style="list-style-type: none"> • improving quality

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- improving quantity
- reducing costs
- safety aspects
- environmental aspects
- improving time scales

PPE Personal protective Equipment, to be specified when necessary

Health, safety and environmental legislation To be aware of all relevant legislation

Relevant Personnel To include process, utilities, materials, handling commissioning team and any other relevant personnel.



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ELEMENT 4.2.1 Commissioning

In carrying out this work you must:

1. Check that you have the required **operating instructions** and that they are clear and complete
2. Ensure that the **operating parameters** are established
3. Check that the **plant/equipment** to be used is in a safe and functional condition
4. Confirm the status of the **plant/equipment** before commissioning
5. Wear **PPE** if necessary
6. Begin operation, and document response of **plant/equipment**
7. Identify and investigate any **problems**
8. Deal promptly with any **problems** that arise, reporting any which you cannot solve and/or are not your responsibility
9. Follow safe working procedures when using **plant/equipment** and dealing with hazardous materials
10. Complete commissioning within the required time
11. Complete required **documentation**

To do this you need to know

- a) the meaning of terms used in operating instructions for commissioning
- b) the importance of critical operating parameters
- c) the functions and uses of the different types of equipment used in the operation and how to confirm status of plant/equipment
- d) how to handle equipment safely in ways that protect yourself and others from risk
- e) your personal responsibilities with regard to health, safety and environment
- f) what personal protective equipment to use and why
- g) what corrective action to take on discovering defective conditions, materials and/or equipment
- h) the types of problems that can occur and how to recognise and deal with them
- i) who to contact if there is an unsolvable problem and/ or it is not your responsibility
- j) what documentation needs to be used and how to complete it
- k) the importance of keeping accurate records for this activity

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ELEMENT 4.2.2 Optimisation

In carrying out this work you must:

1. Check that you have the required commissioning records and that they are clear and complete
2. Operate the **plant/equipment** within recommended limits
3. Ensure that the optimum performance is achieved from **plant /equipment** within these limits
4. Document evidence and make **recommendations** when appropriate
5. Ensure that these **recommendations** will improve process operations
6. Submit **recommendations** to **relevant personnel**
7. Wear appropriate **PPE**
8. Ensure that appropriate action is taken to minimise waste in the process
9. Deal promptly with any **problems** in the procedure that are your responsibility
10. Inform the **relevant personnel** of any **problems** you cannot solve and/or are not your responsibility
11. Work safely at all times with regard to **material, plant/equipment** and personal safety
12. Ensure all time/planning schedules are met
13. Make training **recommendations** when appropriate
14. Complete any necessary **documentation**

To do this you need to know

- a) the meaning of terms used in commissioning records
- b) the limitations of plant/equipment
- c) why it is important that optimum performance is achieved wherever possible
- d) how to make recommendations using the information available, and who to submit them to
- e) why it is important to keep accurate records
- f) why it is important to minimise waste in the process
- g) what problems may occur and how to deal with them
- h) who to report to with unsolvable problems and/or those which are not your responsibility
- i) your personal responsibilities with regard to health, safety and environment
- j) when and why PPE needs to be worn
- k) why time schedules are important
- k) methods of documentation that are used

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Commentary for Unit 4.3:

Respond to process problems

This unit is a tailored version of a Combined Working Practices unit produced by the PINTOG and was originally designated Unit 5.

This unit addresses the competence required to respond to process problems. This involves:

- identifying problems which occur during processing
- selecting and carrying out defined procedures to deal with a problem

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.3.1 Identify process problems which may affect quality

4.3.2 Implement procedures to deal with process problems which may affect quality

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation will only be considered relevant and acceptable in the rare or dangerous occurrences* (see below) in the assessment of this unit, to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for the rest of unit.

- *• health, safety and environmental issues
- emergency scenarios
- rare occurrences at work

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Materials May include solids, liquids and gases.

Operating instructions/ and/or specification

The set of instructions which detail the process and the quality/quantity/time outcomes for the operation. Including normal operating parameters.

Equipment/plant This to include equipment/plant where there is some interaction between items and/or people.

PPE Personal Protective Equipment, to be specified, when necessary.

Problems These can relate to either materials, equipment and/or materials and/or specifications. Typical production problems include:

- product contamination
- loss of yield
- equipment damage
- non-achievement of specified quantity/time and/or quality requirements
- health/safety/environmental problems.

Investigative methods To find the solution some or all of the following may be used:

- interviewing
- inspecting
- testing of materials
- testing of equipment
- trying out solutions

Authority That which is given to the person responsible for the operation.

Documentation Includes any relevant reports/records/recommendations and any other documentation.

Communication Methods to include individually or in groups, either

- written
- spoken
- electronic

Recommendations These may include some or all of the following:

- improving quality



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- improving quantity
- reducing costs
- safety aspects
- environmental aspects
- improving time scales

Health, safety and environment To include all relevant legislation

Procedure Procedures are established ways of undertaking action. They are specified in formal documents and contain details of the actions to be undertaken, the methods to be applied and the sequence in which actions should occur.

ELEMENT 4.3.1 Identify process problems which may affect quality

In carrying out this work you must:

1. Promptly and correctly identify when a **problem** has occurred
2. Base your decisions on the correct quality **specifications** for the process operation
3. Accurately record the details of the **problem** in the correct way
4. Identify the nature of the **problem** correctly using the information in **operating instructions**
5. Seek the advice of others when you cannot be certain about the nature of the **problem** and what to do about it
6. Wear **PPE** when appropriate
7. Work safely at all times

To do this you need to know

- a) what the main functions are of process equipment and systems, how the various parts of a system interact, and what types of services used by process equipment and systems
- b) what materials are used in different processes, what happens to them as they are processed, and why they have to be prepared
- c) what working practices and authorisations apply, the lines of communication and procedures that should be followed in a given situation and why it is important to work within the 'rules' of the organisation
- d) what level of monitoring is required by different processes, what information to gather and when, how to compare data with expected values, the importance of following specified monitoring procedures, and when a process problem should be considered minor and when significant
- e) why it is logical to first investigate the most likely causes of a problem, before looking any further, and why it is important to gather sufficient information about a problem before drawing conclusions
- f) the sorts of records kept, how to complete them, where they are stored and who has access to them
- g) when and where it is appropriate to wear PPE
- h) what your personal responsibilities are with regard to health and safety

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ELEMENT 4.3.2 Implement procedures to deal with process problems which may affect quality

In carrying out this work you must:

1. Select the correct procedure to follow according to the **problem** characteristics
2. Carry out the actions required exactly as set down in the procedure
3. Work safely, following all **safety, health and environmental** requirements relevant to the process
4. Tell the appropriate person immediately if there are **problems** in carrying out the procedure as set down
5. Record the details of what has been done in the correct way
6. Wear **PPE** when appropriate

To do this you need to know

- a) what the main functions are of process equipment and systems, how the various parts of a system interact, and what types of services used by process equipment and systems
- b) what materials are used in different processes, what happens to them as they are processed, and why they have to be prepared
- c) what working practices and authorisations apply, the lines of communication and procedures that should be followed in a given situation and why it is important to work within the 'rules' of the organisation
- d) what should the readings be, what readings to expect and why, what process control involves, the sorts of problems that can arise with the process and what early warning signs there are, what interventions should be applied, when and by whom, what process control records are kept and why it is important that these are complete and accurate
- e) what level of monitoring is required by different processes, what information to gather and when, how to compare data with expected values, the importance of following specified monitoring procedures, and when a process problem should be considered minor and when significant
- f) the sorts of records kept, how to complete them, where they are stored and who has access to them
- g) what agreed health and safety procedures relate to controlling risks to health and safety and the process the environment
- h) what your personal responsibilities are with regard to health and safety

Commentary for Unit 4.6:

Develop and update Standard Operating Procedure/s

This unit addresses the competence required to develop and prepare new or revised procedures for the operation of plant/equipment and or related activities. This involves:

- drafting the procedure/s

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- evaluating the procedure/s
- obtaining approval for the procedure/s
- completing necessary documentation
- maintaining your own and other's safety while working

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.6.1 Draft procedure/s

4.6.2 Evaluate procedure/s and obtain approval

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation will only be considered relevant and acceptable in the rare or dangerous occurrences* (see below) in the assessment of this unit, to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for the rest of unit.

- *• health, safety and environmental issues
- emergency scenarios
- rare occurrences at work

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Operational requirement	What is required by the operation.
Operational method	The preferred method /way of operating according to best practice and equipment operating instructions.
Procedures	May include <ul style="list-style-type: none"> • new and/or revised procedures for the operation of equipment/plant.(At least as complex as a single unit <i>operation</i>.) • related activities such as sampling, testing, cleaning etc.
SOP	Standard operating procedure. The set of instructions that describe the operational requirements for the work to be carried out, including details of the operating instructions/methods. If followed, the required organisational objectives should be more easily achieved in the following areas: <ul style="list-style-type: none"> • quantity • quality • cost • time • safety, health and environment
Operating/control parameters	The conditions under which the SOP should take place
Operating conditions	Control of conditions may include: <ul style="list-style-type: none"> • temperature, flow, humidity, pressure, density,ph and level
Operational methods type	May include the different types of operational methods for the of plant/equipment or activity to be used.
Equipment/plant	This may include equipment/plant where there is some interaction between items and/or people. Also may include a number of parameters within the operator's control, and some control instrumentation. <p>Typical equipment may include:</p> <ul style="list-style-type: none"> • chemical reactors • addition tanks • phase separators • receiving vessels • pipework and pumps • film coaters • solution make-up vessels • filters and spray equipment

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PPE	Personal protective equipment to be specified, when necessary.
PTW	May include permit to work. Authority to start, and/or continue with the operation or the equivalent.
Process type/operations	<p>Batch and/or continuous processing. The following types may be included:</p> <ul style="list-style-type: none"> • batch operations, where there are a number of batch operations running simultaneously, and also a multi-staged batch operation. . • continuous operations, such as reaction, recovery, separation and purification processes, mixing, granulating, drying and compressing.
Problems	These can relate to either people and or equipment. Obtaining relevant authority to proceed, drafting, testing, evaluating, obtaining final approval.
Corrective actions	May include adjust, request assistance, replace defective materials or shutdown.
Documentation	Including that relating to drafting ,evaluating and obtaining approval, and any other relevant documentation.
Communication/ Communicate	To include either written, spoken and/or electronic
Authority	The method in an organisation whereby permission is given to continue and/or proceed.
Personnel	Any other people in the organisation who are relevant to the process.
Health, safety & environment	To include all relevant legislation and company policy.

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ELEMENT 4.6.1 Draft procedure/s

In carrying out this work you must:

1. Check that you have accurate details concerning **operational requirements** for the process
2. Analyse **operational methods** for the process
3. Ensure that the objectives of quality, quantity, cost and time will be met by any new and/or changed **procedure/s**
4. Identify all the resources that are necessary for the **procedure/s**
5. Select appropriate operational activities that will implement the **operational methods** for the **procedure/s**
6. Draft the procedure for implementing the preferred **operational method**
7. Ensure that all relevant health, safety and environmental considerations are covered
8. Record the **operational method** accurately and clearly
9. Wear appropriate **PPE**
10. **Communicate**, if required, with relevant personnel
11. Deal promptly with any **problems** that arise, reporting any which you cannot solve and/or are not your responsibility
12. Follow safe working procedures at all times

To do this you need to know

- a) how to obtain details of operational requirements for the process
- b) how to analyse the various operational methods
- c) the importance of ,and how to select the most appropriate method
- d) the importance of ensuring all objectives are met by the method
- e) how to identify what resources are needed for the procedure
- f) the importance of selecting the appropriate method
- g) methods of drafting procedure for operational methods
- h) how to record all information accurately and clearly
- i) the importance of communication, and of keeping others informed during the operation
- j) the importance of covering all health, safety and environmental considerations
- k) your personal responsibilities with regard to health, safety and environment
- l) what personal protective equipment to use and why
- m) the types of problems that may occur and how to recognise and deal with them
- n) who to contact if there is an unsolvable problem and/ or it is not your responsibility

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ELEMENT 4.6.2 Evaluate procedure/s and obtain approval

In carrying out this work you must:

1. Check that you have the **authority** to test the new and/or changed procedure/s
2. Complete preparations for testing the **procedure/s**
3. Inform all relevant **personnel**
4. Test the **procedure/s** and document the results
5. Re-test and /or make adjustments where necessary
6. Submit **recommendations** to appropriate **authority**
7. Gain approval from the appropriate **authority**
8. Ensure that the new and/or changed operating procedure/s are ready when required by the production and training **schedules**
9. **Communicate** with all relevant personnel
10. Record information accurately using correct **documentation**
11. Wear appropriate **PPE**
12. Inform the appropriate person of any **problems** you cannot solve and/or are not your responsibility
13. Work safely at all times with regard to **materials, equipment** and personal safety

To do this you need to know

- a) the importance of confirming authorisation to proceed
- b) the importance of completing preparations for testing
- c) how to inform all relevant personnel
- d) the importance of keeping all relevant personnel informed
- e) methods of testing the procedure
- f) the importance of documenting the results clearly and accurately
- g) when and how to make adjustments to the procedure
- h) how to make recommendations
- i) who to submit recommendations to and the importance of gaining approval
- j) how to ensure that the new and/or changed procedures are ready when required
- k) why it is important to keep others informed
- l) why it is important to record and document information accurately and clearly
- m) who to report to with unsolvable problems and/or those which are not your responsibility
- n) your personal responsibilities with regard to health, safety and environment
- o) when and why PPE needs to be worn

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Commentary for Unit 4.7:

Identify the scope for improvement in the way the organisation manages energy

This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit E1.

This unit addresses the competence required to evaluate how the organisation manages energy and suggest possible areas for improvement.

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.7.1 Audit the organisation's performance in the way it manages energy

4.7.2 Identify improvements to the way the organisation manages energy

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the requirements of the unit. Workplace performance evidence is mandatory for this unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Audit	Involves examining the way in which the organisation manages energy in order to identify if this is consistent with legal requirements, organisational policies and best practice.
Energy efficiency initiatives	The includes activities, such as awareness campaigns, newsletters, guidelines, briefing sessions, awards, inspections and audits, designed to improve the efficiency of the use of energy.
Energy policies	Refers to guidelines which cover the way that energy is used in the organisation.
Energy sources	Includes all sources of energy, such as electricity, gas, oil, solid fuels, nuclear and renewable sources.
Legal requirements	Refers to the laws which affect the use of energy.
The organisation	Refers to the organisation with which you are working to improve its energy efficiency (this may be different from the organisation that employs you).
Your organisation	The Organisation which employs you (this may be different from the organisation with which you are working to improve its efficiency).
Performance indicators	The criteria for measuring the organisation's performance in energy management.

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Personal Competencies

In performing effectively in this unit, you will show that you

Acting strategically

- display and understanding of how the different parts of the organisation and its environment fit together
- clearly relate goals and actions to the strategic aims of the organisation

Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- identify the information need of the listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- use a variety of media and communication aids to reinforce points and maintain interest
- confirm listeners' understanding through questioning and interpretation of non-verbal signals
- modify communication in response to feedback from listeners

Influencing others

- develop and use contacts to trade information, and obtain support and resources
- present yourself positively to others
- create and prepare strategies for influencing others
- use a variety of means to influence others
- understand the culture of your organisation and act to work within it or influence it

Searching for information

- establish information networks to search for and gather relevant information
- make best use of existing sources of information
- actively encourage the free exchange of information
- seek information from multiple sources
- challenge the validity and reliability of sources of information

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Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

You involve at least **three** of the following types of **relevant** people:

- the work force
- colleagues working at the same level
- higher level managers or sponsors
- technical specialists.

You use **all** of the following types of **performance indicators**:

- energy usage
- costs
- efficiency.

You present your proposals in **both** the following **formats**:

- written
- spoken.

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ELEMENT 4.7.1 Audit the organisation's performance in the way it manages energy

In carrying out this work you must:

1. Ensure that you accurately evaluate the impact of the **organisation's** activities on the use of energy.
2. Ensure that you work in partnership with the relevant people to correctly identify the **organisation's energy efficiency initiatives** and how they are developed.
3. Ensure that you accurately evaluate how committed the **organisation** is to its policies on the efficient use of energy.
4. Ensure that you evaluate how well the **organisation's energy efficiency initiatives** align with its policies and **legal requirements**.
5. Ensure that you agree with the relevant people clear, relevant and assessable **performance indicators** for managing energy.
6. Ensure that you present **performance indicators** in formats that meet organisational requirements.
7. Ensure that you accurately measure the **organisation's** performance against **performance indicators**.

To do this you need to know

- a) how to consult and collaborate with relevant people on energy efficiency
- b) acceptable formats for presenting performance indicators and how to select formats appropriate to different situations
- c) how the activities of an organisation can affect the energy used
- d) the range of energy efficiency initiatives available and how they may be developed within the organisations
- e) the laws which affect the use of energy
- f) how to measure the impact of the organisation's activities on the energy it uses
- g) how to measure the level of commitment an organisation has to its policies
- h) how to develop performance indicators for managing energy
- i) the policies and procedures of the organisation regarding the efficient use of energy

Version	Final
Date	May 2005

ELEMENT 4.7.2 Identify improvements to the way the organisation manages energy

In carrying out this work you must:

1. Ensure that you evaluate the finding of your **audit** and their implications for how energy is used and managed.
2. Ensure that you evaluate how appropriate and effective current **energy sources** are for the activities for which they are used.
3. Ensure that you assess potential areas for energy saving in partnership with those involved.
4. Ensure that you evaluate the effects of operational activities on energy usage, efficiency and safety.
5. Ensure that you support your proposals for improving the effectiveness of energy usage with sufficient, valid information.
6. Ensure that you present your proposals for improving the effectiveness of energy usage in a suitable format.

To do this you need to know

- a) how to consult and collaborate with those involved
- b) how to develop and present an effective case for improvement
- c) the energy performance indicators and the organisation's current performance against these
- d) the findings of your energy audit and how to identify their implications for energy usage and management
- e) the types of energy source available - electricity, gas, oil, solid fuels, nuclear and renewable sources - and their relative appropriateness and effectiveness for different activities
- f) the principle techniques and technologies which support the efficient use of energy
- g) how to identify areas where energy savings may be made and how to estimate and assess the potential savings
- h) how to evaluate the effects of organisational activities on energy usage, efficiency and safety
- i) the relevant safety legislation, systems and procedures
- j) how to gather information and assess whether it is valid and sufficient
- k) the policies and procedures of the organisation regarding the efficient use of energy

Version	Final
Date	May 2005

Commentary for Unit 4.8:

Provide advice on the development and implementation of energy policies

NB This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit E2.

This unit addresses the competence required to advise senior management on policies for the use of energy and on the strategies needed to implement these policies.

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.8.1 Provide advice on the development of policies for the use of energy

4.8.2 Recommend strategies to implement energy policies

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, simulation may only be used in the assessment of this unit in relation to element 1, criterion e) and f), in order to cover the full scope of the unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Audit	Involves examining the way in which the organisation manages energy in order to identify if this is consistent with legal requirements, organisational policies and best practice.
Codes of practice	Refers to guidelines which the organisation has voluntarily agreed to follow.
Energy cost statements	Refers to the documents that record the cost of energy consumed by a defined operational area within a specific time period.
Energy policies	Refers to guidelines which cover the way that energy is used in the organisation.
Environment	Refers to the physical conditions both inside and outside the organisation.
Legislation	Refers to the laws relevant to the use of energy and its impact, for example, on the environment or health and safety.
Management Information Systems	The systems, often computerised, designed to give managers up-to-date of information about operations so that they can take prompt action in the event of variances or opportunities.
Monitoring records	Refers to those documents which record the use of energy over time.
The organisation	Refers to the organisation with which you are working to improve its energy efficiency (this may be different from the organisation that employs you).
Your organisation	The Organisation which employs you (this may be different from the organisation with which you are working to improve its efficiency).
Resources	Includes the money, people, time, equipment, materials, services, energy and premises which you have at your disposal

Version	Final
Date	May 2005

Personal Competencies

In performing effectively in this unit, you will show that you

Acting strategically

- display and understanding of how the different parts of the organisation and its environment fit together
- clearly relate goals and actions to the strategic aims of the organisation

Communicating

- identify the information need of the listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- use a variety of media and communication aids to reinforce points and maintain interest
- confirm listeners' understanding through questioning and interpretation of non-verbal signals
- modify communication in response to feedback from listeners

Influencing others

- present yourself positively to others
- create and prepare strategies for influencing others
- use a variety of means to influence others
- understand the culture of your organisation and act to work within it or influence it

Searching for information

- establish information networks to search for and gather relevant information
- make best use of existing sources of information
- seek information from multiple sources
- challenge the validity and reliability of sources of information

Thinking and taking decisions

- break processes down into tasks and activities
- identify a range of elements in and perspectives on a situation
- identify implications, consequences or casual relationships in a situation
- produce a variety of solutions before taking a decision
- reconcile and make use of a variety of perspectives when making sense of a situation
- produce your own ideas from experience and practice

Version	Final
Date	May 2005

Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

Your advice is based on at least **two** of the following types of **information**:

- energy cost statements
- management information systems
- monitoring and targeting records
- best practice guidance
- codes of practice
- relevant legislation.

You consult **information sources** which are both:

- internal
- external.

You evaluate at least two of the following types of **advantages and disadvantages**:

- safety
- cost
- reliability
- environment
- quality.

You consider at least **two** of the following types of **strategies and methods**:

- publicity
- training
- motivation
- instruction.

You specify at least **two** of the following types of **resources**:

- money
- people
- equipment
- energy
- premises
- materials.

Version	Final
Date	May 2005

ELEMENT 4.8.1 Provide advice on the development of policies for the use of energy

In carrying out this work you must:

1. Ensure that your advice is based in accurate, relevant and up-to-date information.
2. Ensure that you consult appropriate sources where you need additional information.
3. Ensure that your advice takes account of related organisational objectives and constraints which influence the way in which the **organisation** uses energy.
4. Ensure that you outline realistic goals for savings and improvements in energy use.
5. Ensure that you explain the implications of these savings and improvements in energy use.
6. Ensure that you explain the implications of these savings and improvements for other activities in the **organisation**.
7. Ensure that you clearly define the responsibilities for energy management and the benefits for the **organisation**.
8. Ensure that you document your advice with organisational requirements.

To do this you need to know

- a) how to present detailed and complex advice in a way which leads to acceptance
- b) the importance of basing advice on sound information
- c) how to gather information from energy cost statements, management information systems, monitoring records, codes of practice and relevant legislation
- d) sources to consult for information on energy and how to approach them
- e) how to develop goals for saving and improvements in energy usage and how to assess whether these are realistic
- f) the structure and responsibilities within the organisation and how its activities interrelate
- g) the organisational requirements for documenting advice and how to comply with them
- h) how to assess the potential impact of polices on different parts of the organisation
- i) how to estimate the potential benefits from effective energy management

Version	Final
Date	May 2005

ELEMENT 4.8.2 Recommend strategies to implement energy policies

In carrying out this work you must:

1. Ensure that you accurately evaluate the advantages and disadvantages of different strategies and methods for implementing the organisation's **energy policy**.
2. Ensure that you present the results of your evaluations in ways which help people take informed decisions.
3. Ensure that you recommend implementation strategies and methods which are consistent with the organisation's **energy policy**.
4. Ensure that you agree with decision-makers the strategies and methods for implementing the organisation's **energy policy**.
5. Ensure that you agree with decision-makers the strategies and methods for implementing the organisation's **energy policy**.
6. Ensure that you clearly specify the **resources** required to implement the energy policy.

To do this you need to know

- a) how to present detailed information in a way which supports decision-making
- b) the range of strategies and methods which may be used to implement energy policies and how to evaluate their advantages and disadvantages
- c) the available suppliers, tariffs and fuel costs
- d) the policies and procedures of the organisation regarding the efficient use of energy
- e) the structure and responsibilities within the organisation and how its activities interrelate
- f) the decision-makers and their preferred formats for the presentation of information
- g) the range of resources available to the organisation: money, people, equipment, energy, premises, materials
- h) how to assess whether strategies and methods are consistent with the organisation's policy
- i) how to estimate the type and scale of the resources required to implement energy policies

Version	Final
Date	May 2005

Commentary for Unit 4.9:

Monitor and evaluate energy efficiency

This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit E4.

This unit addresses the competence required to monitor and evaluate the organisation's performance in energy efficiency against its own declared policy and against best practice.

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.9.1 Establish systems and processes to monitor and evaluate energy usage

4.9.2 Obtain, analyse and record information on energy efficiency performance

4.9.3 Evaluate the organisation's energy efficiency performance

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, simulation may only be used in the assessment of this unit in relation to element 2, criterion c), in order to cover the full scope of the unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Appropriate people	Refers to higher-level managers or sponsors, colleagues working at the same level as yourself and technical specialists.
Auditing	Involves examining the way in which the organisation manages energy in order to identify if this is consistent with legal requirements, organisational policies and best practice.
Codes of practice	Refers to guidelines which the organisation has voluntarily agreed to follow.
Energy cost statements	Refers to the documents that record the cost of energy consumed by a defined operational area within a specific time period.
Energy policies	Refers to guidelines which cover the way that energy is used in the organisation.
Legislation	Refers to the laws relevant to the use of energy and its impact, for example, on the environment or health and safety.
Management Information Systems	The systems, often computerised, designed to give managers up-to-date of information about operations so that they can take prompt action in the event of variances or opportunities.
Monitoring records	Refers to those documents which record the use of energy over time.
The organisation	Refers to the organisation with which you are working to improve its energy efficiency (this may be different from the organisation that employs you).
Your organisation	The Organisation which employs you (this may be different from the organisation with which you are working to improve its efficiency).
Relevant people	Refers to higher-level managers or sponsors, colleagues working at the same level as yourself and other staff.
Resources	Includes the money, people, time, equipment, materials, services, energy and premises which you have at your disposal
Scope	Refers to the area and activities of the organisation which are covered by the evaluation.

Version	Final
Date	May 2005

Personal Competencies

In performing effectively in this unit, you will show that you

Communicating

- identify the information need of the listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place

Influencing others

- present yourself positively to others
- create and prepare strategies for influencing others
- use a variety of means to influence others
- understand the culture of your organisation and act to work within it or influence it

Searching for information

- establish information networks to search for and gather relevant information
- actively encourage the free exchange of information
- make best use of existing sources of information
- seek information from multiple sources
- challenge the validity and reliability of sources of information
- push for concrete information in an ambiguous situation

Thinking and taking decisions

- identify a range of elements in and perspectives on a situation
- identify implications, consequences or casual relationships in a situation
- use your own experience and evidence from others to identify problems and understand situations
- produce a variety of solutions before taking a decision
- identify patterns or meanings from events and data which are not obviously related
- build a total and valid picture from restricted or incomplete data

Version	Final
Date	May 2005

Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

Your work in this area includes at least **two** of the following types of **relevant people**:

- higher-level managers or sponsors
- colleagues working at the same level as yourself
- other staff.

You use **both** the following types of **sources of information**:

- internal
- external.

You identify and gain approval for, at least **two** of the following types of **resources**:

- money
- people
- equipment
- energy
- premises
- materials.

You obtain and analyse at least **two** of the following types of **information**:

- energy cost statements
- management information systems
- monitoring records
- best practice guidance
- codes of practice
- relevant legislation.

You communicate with **all** of the following types of **appropriate people**:

- higher level managers or sponsors
- colleagues working at the same level as yourself
- technical specialists.

Version	Final
Date	May 2005

ELEMENT 4.9.1 Establish systems and processes to monitor and evaluate energy usage

In carrying out this work you must:

1. Ensure that you agree with **relevant people** the **scope** and objectives of the evaluation.
2. Ensure that you establish **monitoring** systems and processes which cover the factors that affect energy usage.
3. Ensure that you identify performance measured and assessment tools and techniques which are appropriate to the scope and objectives of the evaluation.
4. Ensure that you identify relevant and effective sources of information on energy usage.
5. Ensure that you fully review existing internal information systems before establishing new systems.
6. Ensure that you correctly identify and gain approval for, the **resources** needed to implement new systems.
7. Ensure that your **monitoring** systems and processes are clearly, fully and accurately documented.
8. Ensure that you give **relevant people** adequate and accurate information about the evaluation.

To do this you need to know

- a) the principles and processes of effective communication and how to apply them
- b) the factors which affect energy usage
- c) the sources of information on energy usage and how to make effective use of them
- d) how to set the scope and objectives for evaluation
- e) the range of monitoring systems and processes for evaluating energy usage and how to select the appropriate ones
- f) how to document monitoring systems and processes
- g) the organisational information systems and how useful and reliable they are
- h) who need to be involved in agreeing the scope and objectives of the evaluation
- i) who needs to receive what information about the evaluation
- j) how to estimate the resources required to implement new systems and how to gain approval for these resources

Version	Final
Date	May 2005

ELEMENT 4.9.2 Obtain, analyse and record information on energy efficiency performance

In carrying out this work you must:

1. Ensure that individuals and teams provide information necessary for the evaluation and improvement of energy performance.
2. Ensure that you obtain sufficient, relevant information regularly to allow an accurate and complete analysis to be made.
3. Ensure that you take appropriate corrective action in the event of any weaknesses, confusions or discrepancies in the information.
4. Ensure that your analysis takes account of information from suppliers on the energy efficiency of their products, services and processes.
5. Ensure that your analysis is sufficient to reveal opportunities for improvements in energy usage.
6. Ensure that you record and store information obtained and the conclusions of the analysis in line with organisational requirements.

To do this you need to know

- a) the principles and processes of effective communication and how to apply them
- b) the types of information you need in order to assess energy efficiency
- c) how to identify the individuals and teams who are best placed to provide the information you need
- d) how to ensure these individuals and teams provide the relevant information
- e) the range of suppliers and the information they can provide on the energy efficiency of their products, services and processes
- f) the importance of having sufficient, relevant information for the analysis and how to ensure that you have it
- g) how to assess whether information is sufficient and relevant and what corrective action to take if it is not
- h) how to analyse the information in order to identify opportunities for improvements
- i) how to record and store information
- j) people who can provide information and how to encourage them to do so
- k) the organisation's policies and procedures on energy management and the recording and storing of information

Version	Final
Date	May 2005

ELEMENT 4.9.3 Evaluate the organisation's energy efficiency performance

In carrying out this work you must:

1. Ensure that you regularly report accurate, relevant and up-to-date information on the **organisation's** energy performance to **appropriate people**.
2. Ensure that your evaluation methods allow information about performance to be interpreted accurately.
3. Ensure that you accurately record the results of the evaluation, the criteria for evaluation and any assumptions made.
4. Ensure that you accurately identify potential areas for improvement and compare these with current organisational performance and current best practice.
5. Ensure that you make recommendations for improvements which are consistent with the **organisation's energy policy** and procedures.
6. Ensure that you communicate your recommendations promptly to the **appropriate people**.

To do this you need to know

- a) the principles and processes of effective communication and how to apply them
- b) how to devise and communicate recommendations for improvements
- c) current best practice in energy efficiency
- d) the reporting procedures which need to be followed
- e) the range of evaluation methods you could use and how to decide which one(s) to use
- f) how to develop clear criteria for evaluation
- g) how to specify the assumptions that you have made
- h) how to use the findings of the evaluation to identify potential areas for improvement
- i) the information different people need and when they need it
- j) the policies and procedures of the organisation regarding the efficient use of energy

Version	Final
Date	May 2005

Commentary for Unit 4.10:

Manage continuous quality improvement

This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit F3.

This unit addresses the competence required to ensure there is continuous quality improvement throughout the organisation.

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.10.1 Develop and implement systems to monitor and evaluate organisational performance

4.10.2 Promote continuous quality improvement for products, services and processes

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, simulation may only be used in the assessment of this unit in relation to element 1, criterion f) and i), in order to cover the full scope of the unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Assessment tools and techniques	Refers to the methods of measuring organisational performance, such as reviews against quality standards, business excellence reviews, systems and process audits, external evaluations.
Continuous quality improvement	Continuously seeking, identifying and implementing ways of improving products, services and processes.
Performance measures	The criteria, such as standards, specifications and benchmarks, by which the organisation's performance is judged.
Quality	The standard of product or service needed by the customer.
Relevant people	Refers to higher-level managers or sponsors, colleagues working at the same level as yourself and quality specialists.
The organisation	Refers to the organisation with which you are working to improve its energy efficiency (this may be different from the organisation that employs you).
Your organisation	The Organisation which employs you (this may be different from the organisation with which you are working to improve its efficiency).
Sampling	The selection of a small number of products, services or processes for evaluation, which will provide a sound indication of overall performance.
Trends and developments	Changes, either inside or outside the organisation, which suggest possible improvements can be made.

Version	Final
Date	May 2005

Personal Competencies

In performing effectively in this unit, you will show that you

Acting strategically

- take opportunities when they arise to achieve the longer-term aims or needs of the organisation
- clearly relate goals and actions to the strategic aims of the organisation

Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- identify the information needs of listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place

Focusing on results

- use change as an opportunity for improvement
- establish and communicate high expectations of performance, including setting an example to others
- set goals that are demanding of self and others
- monitor quality of work in progress against plans
- continually strive to identify and minimise barriers to excellence

Influencing others

- create and prepare strategies for influencing others
- use a variety of means to influence others
- understand the culture of your organisation and act to work within it or influence it

Searching for information

- seek information from multiple sources
- challenge the validity and reliability of sources of information

Thinking and taking decisions

- break processes down into tasks and activities
- use your experience and evidence from others to identify problems and understand situations
- identify patterns or meaning from events and data which are not obviously related
- build a total and valid picture from restricted or incomplete data
- take decisions which are realistic for the situation

Version	Final
Date	May 2005

Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

You involve at least **two** of the following types of **relevant people**:

- higher level managers or sponsors
- colleagues working at the same level as yourself
- quality specialists.

You identify sources of **information** about **all** of the following:

- products
- services
- processes
- customers
- suppliers.

You identify **both** of the following types of **trends and developments**:

- internal
- external.

You recommend and implement **all** of the following types of **improvements**:

- improvements in human performance
- improvements in system performance
- improvement in organisational policies and strategies.

Version	Final
Date	May 2005

ELEMENT 4.10.1 Develop and implement systems to monitor and evaluate organisational performance

In carrying out this work you must:

1. Ensure that you agree the scope and objectives of the system to monitor and evaluate organisation performance with **relevant people**.
2. Ensure that you develop a system which takes account of all critical factors.
3. Ensure that you identify appropriate performance measures and assessment tools and techniques.
4. Ensure that you identify and confirm existing and potential sources of information.
5. Ensure that you obtain and provide sufficient resources for the system to be effective.
6. Ensure that where it is not possible to obtain or provide sufficient resources, the objectives and scope are modified with the agreement of **relevant people**.
7. Ensure that monitoring and evaluation systems are clearly, accurately and comprehensively documented.
8. Ensure that you give **relevant people** adequate and accurate information about the evaluation.
9. Ensure that where you use a sampling approach, it is justifiable in terms of technique, cost and the data likely to be obtained.

To do this you need to know

- a) the range of appropriate assessment tools and techniques, their relative advantages and disadvantages and how to decide which to use
- b) the range of appropriate sampling techniques, their relative advantages and disadvantages and how to decide which to use
- c) how to justify the use of sampling techniques in terms of cost and the data likely to be obtained
- d) existing and potential source of information and how to access them
- e) the importance of clear, accurate and comprehensive documentation and how to achieve this
- f) performance measures and how to develop them
- g) relevant people to involve in the development and implementation of monitoring and evaluation systems
- h) the critical factors which need to be taken into account when developing the system and how to identify them
- i) how to identify the resources needed for the system and how to obtain these resources

Version	Final
Date	May 2005

ELEMENT 4.10.2 Promote continuous quality improvements for products, services and processes

In carrying out this work you must:

1. Ensure that you assess the outcomes of continuous monitoring and quality evaluations for their implications for the organisation.
2. Ensure that you correctly identify **trends and developments** in the quality of products, services and processes.
3. Ensure that you advise **relevant people** promptly about the impact **trends and developments** may have on the perceived and actual quality of the organisation's products, services and processes.
4. Ensure that you make recommendations for improving the quality of products, services and processes to **relevant people** in a form which supports decision-making.
5. Ensure your recommendations clearly show the benefits which improvements could bring against the resources which would need to be expended.
6. Ensure that you obtain and provide sufficient resources and support to allow improvements to be implemented successfully.
7. Ensure that you monitor improvements for their effectiveness against agreed criteria.
8. Ensure that you encourage the **relevant people** to be involved in continuous **quality improvement**.

To do this you need to know

- a) how to conduct a cost-benefit analysis
- b) the principles and processes of effective communication and how to use them
- c) how to present detailed information in a way which supports decision-making
- d) how to motivate individuals to be involved in continuous quality improvement
- e) the relevant information from performance monitoring and evaluation systems
- f) how to assess the implications of the results of monitoring and evaluation for the organisation
- g) how to develop criteria to measure effectiveness
- h) the people who should be involved in decisions on continuous quality improvement and how to secure their involvement
- i) how to assess the impact of trends and developments on the perceived or actual quality of the organisation's products, services and processes
- j) how to assess the resources needed to implement improvements, and how to obtain and provide these resources

Commentary for Unit 4.11:

Implement quality assurance systems



Version	Final
Date	May 2005

This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit F4.

This unit addresses the competence required to ensure that your organisation's products and services continuously meet the standard required by your customers.

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

4.11.1 Establish quality assurance systems

4.11.2 Maintain quality assurance systems

4.11.3 Recommend improvements to quality assurance systems

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, simulation may only be used in the assessment of this unit in relation to element 2, criterion d) and f), in order to cover the full scope of the unit.

Version	Final
Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Analysis of processes	Breaking down the processes into their constituent activities in order to describe what has to be done and to be able to measure whether it has been done to the standard required.
Customer	The person(s), organisation(s) or department(s), either inside or outside your organisation for whom you are providing services or products.
Evaluation of information	A balanced assessment of whether the information you receive is valid and reliable.
Improvements	Those changes to work conditions, processes, products and services designed to increase efficiency or effectiveness.
Plans	Documents or spoken agreements, which describe the work to be carried out, when, by whom, to what standard and with what resources, in order that requirements and objectives can be met.
Quality	The standard of product or service needed by the customer.
Quality assurance systems	Refers to the formal structures or techniques to make sure products and services consistently meet the standard required by the customer; quality systems may be validated either within your organisation, or by external auditors, or both.
Relevant People	Refers to team members, colleagues working at the same level as yourself, higher-level managers or sponsors, specialists and people outside your organisation.
Unacceptable variations	Differences from the agreed specification or standard which are too great to be accepted by the customer

Version	Final
Date	May 2005

Personal Competencies

In performing effectively in this unit, you will show that you

Acting strategically

- display and understanding of how the different parts of the organisation and its environment fit together
- clearly relate goals and actions to the strategic aims of the organisation

Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- encourage listeners to ask questions or rephrase statements to clarify their understanding

Focusing on results

- actively seek to do things better
- use change as an opportunity for improvement
- establish and communicate high expectations of performance, including setting an example to others
- monitor quality of work and progress against plans

Influencing others

- present yourself positively to others
- create and prepare strategies for influencing others
- use a variety of means to influence others
- understand the culture of your organisation and act to work within it or influence it

Thinking and taking decisions

- break processes down into tasks and activities
- use your own experience and evidence from others to identify problems and understand situations
- identify patterns or meaning from events and data which are not obviously related
- produce a variety of solutions before taking a decision
- produce your own ideas from experience and practice
- take decisions which are realistic for the situation

Version	Final
Date	May 2005

Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

You have established at least **one** of the following types of **quality assurance systems**:

- externally validated
- devised and validated in-house

Your work in this area with at least **three** of the following types of **relevant people**:

- team members
- colleagues working at the same level as you
- higher level managers or sponsors
- specialists.

Your **communications** are in at least **two** of the following forms:

- spoken
- written
- images.

You use **both** the following types of **evaluation** methods:

- qualitative
- quantitative.

You make **both** of the following types of **recommendations**:

- in response to request
- on own initiative.

Version	Final
Date	May 2005

ELEMENT 4.11.1 Establish quality assurance systems

In carrying out this work you must:

1. Ensure that your analysis of processes is sufficient to determine appropriate **quality assurance systems** and measurements.
2. Ensure that you present your recommendations and rationale for establishing **quality assurance systems to relevant people** with the appropriate level of detail and degree of urgency.
3. Ensure that you agree implementation plans, taking account of feedback from **relevant people**.
4. Ensure that you provide opportunities for those involved in **quality assurance systems** to contribute to their development.
5. Ensure that the systems that you set up clearly specify the processes, procedures and measurements required to ensure products and services are within the limits of acceptable **quality**.
6. Ensure that your **quality assurance systems** are capable of making sure that agreed customer requirements are consistently met.
7. Ensure that you communicate the establishment of **quality assurance systems** in a way which is clear, detailed and allows adequate time for preparation.
8. Ensure that you communicate the results and benefits of assuring quality at times most likely to gain the commitment of **relevant people** to the systems.

To do this you need to know

- a) how to communicate effectively to colleagues, team members and higher-level managers and sponsors on quality assurance issues
- b) the importance of customer focus in managing quality
- c) how to develop and present an effective case for the interaction of quality assurance systems
- d) the importance of consulting on the introduction of quality assurance systems and how to do so effectively
- e) how to gain the commitment of staff for quality assurance systems
- f) the importance of quality assurance and your role and responsibility in relation to this
- g) the meaning of quality in the context of managing activities
- h) the principles underpinning effective quality assurance systems and how to apply them
- i) the range of quality assurance systems available and their relative advantages and disadvantages to the activities for which you are responsible
- j) how to analyse work processes and determine the most appropriate quality assurance systems and measurements
- k) how to specify the requirements of a quality assurance system

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ELEMENT 4.11.2 Maintain quality assurance systems

In carrying out this work you must:

1. Ensure that you present information on **quality assurance systems**, procedures and responsibilities to **relevant people** at a time and place and in a format appropriate to their needs.
2. Ensure that you confirm **relevant people's** understanding of, and commitment to, **quality assurance systems** at appropriate intervals.
3. Ensure that you collect and evaluate information, and report the results at required intervals, using agreed methods and against specified performance measures.
4. Ensure that you take prompt and effective action to clarify inadequate, contradictory or ambiguous information.
5. Ensure that you actively encourage **relevant people** freely to report actual and potential variations in quality.
6. Ensure that you take timely and effective action, consistent with **quality assurance procedures**, to rectify **unacceptable variations** in products and services.

To do this you need to know

- a) how to communicate effectively with team members, colleagues and higher-level managers and sponsors on quality assurance issues
- b) how to validate information which may be inadequate, contradictory and ambiguous
- c) how to maintain staff commitment to quality assurance systems
- d) how to encourage and enable feedback on quality
- e) the importance of maintaining quality assurance systems and the procedures required to do so

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ELEMENT 4.11.3 Recommend improvements to quality assurance systems

In carrying out this work you must:

1. Ensure that you provide opportunities for **relevant people** to suggest improvements to **quality assurance systems**.
2. Ensure that you base your recommendations on sufficient, valid and reliable information on the effectiveness and efficiency of **quality assurance systems**.
3. Ensure that your recommendations have the potential to improve the contribution which **quality assurance systems** make to the organisations and its customers.
4. Ensure that you present your recommendations to **relevant people** clearly, logically and in time to be of use.
5. Ensure that where recommendations are not accepted, you establish the reasons and present these to **relevant people** in a manner which maintains morale and motivation.

To do this you need to know

- a) how to communicate effectively with team members, colleagues and higher-level managers and sponsors on quality assurance issues
- b) how to develop and argue an effective case for change
- c) the importance of continuous improvement of continuous improvement to the effectiveness of the team and organisation and your role and responsibilities in relation to this
- d) the importance of customer focus in managing activities
- e) how to encourage and enable feedback on quality systems
- f) how to collect and validate sufficient information on the effectiveness of quality assurance systems to make recommendations on improvement
- g) how to resolve disagreements and disputes in ways which maintain morale and motivation

Commentary for Unit 4.12:

Provide advice and support for the development and implementation of quality systems

This unit is a tailored version of a Management Standards unit produced by the Management Standards Centre and was originally designated Unit F5.

This unit addresses the competence required to develop and manage the systems required to assure quality.

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Date	May 2005

There are four elements in this unit, each of which has performance standards and a knowledge base associated with it.

- 4.12.1 Provide advice and support for the assessment of processes and working environments
- 4.12.2 Provide advice and support for the development of plans to improve quality systems
- 4.12.3 Provide advice and support for the development of measurement systems
- 4.12.4 Provide advice and support for the collection, analysis and documentation of information

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the evidence requirements of the unit. Workplace performance evidence is mandatory for this unit.

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Date	May 2005

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards.

Audit	Involves examining processes to check whether they are consistent with quality standards, systems and procedures.
Control system	Refers to a system which ensures products and services are delivered within agreed specifications.
Customer	The person(s), organisation(s) or department(s), either inside or outside your organisation for whom you are providing services or products.
Legal requirements	The laws relevant to the quality of products, services or processes.
The organisation	Refers to the organisation with which you are working to improve its quality (this may be different from the organisation that employs you).
Your organisation	The Organisation which employs you (this may be different from the organisation with which you are working to improve its quality).
Process	A series of actions carried out in a specific order to achieve a particular result.
Quality	The standard of product or service needed by the customer.
Relevant people	Refers to higher level managers or sponsors, colleagues working at the same level as yourself, team members, customers and suppliers.
Suppliers	The person(s), organisation(s) or department(s), either inside or outside your organisation which are providing you with services or products.
Working environments	The circumstances in which people work including premises and workplace, plant and process machinery, materials and operational procedures.

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Personal Competencies

In performing effectively in this unit, you will show that you

Communicating

- listen actively, ask questions, clarify points and rephrase others' statements to check mutual understanding
- identify the information needs of listeners
- adopt communication styles appropriate to listeners and situations, including selecting an appropriate time and place
- use a variety of media and communication aids to reinforce points and maintain interest
- present difficult ideas and problems in ways that promote understanding
- confirm listeners' understanding through questioning and interpretation of non-verbal signals
- encourage listeners to ask questions or rephrase statements to clarify their understanding

Influencing others

- present yourself positively to others
- create and prepare strategies for influencing others
- use a variety of means to influence others

Searching for information

- seek information from multiple sources
- challenge the validity and reliability of sources of information

Thinking and taking decisions

- break processes down into tasks and activities
- identify a range of elements in and perspectives on a situation
- identify implications, consequences or casual relationships in a situation
- use a range of ideas to explain the actions, needs and motives of others
- use your own experience and evidence from others to identify problems and understand situations
- take decisions which are realistic for the situation

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Evidence requirements

This section specifies the evidence you must show if you wish to have your performance assessed against the National Standard for National Vocational Qualifications or Scottish Vocational Qualifications.

Your work area involves at least two of the following types of **relevant** people:

- higher level managers or sponsors
- colleagues working at the same level as yourself
- team members
- customers
- suppliers.

You consider **all** of the following aspects of **working environments**:

- premises and workplace
- plant and process machinery
- materials
- operational procedures.

You help the organisation keep at least **two** of the following types of **records**:

- to meet statutory requirements
- to meet non-statutory requirements
- to meet the requirements of the quality system

You give support to at least **two** of the following types of **support**:

- provision of information and advice
- accessing expertise
- training people
- working with people on particular objectives or activities.

You give advice on the use of at least **three** of the following types of **tools and techniques**:

- quality planning
- defining criteria
- evaluating tools
- controlling plans
- monitoring cost of quality.

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ELEMENT 4.12.1 Provide advice and support for the assessment of processes and working environments

In carrying out this work you must:

1. Ensure that you give **relevant people** accurate information about the potential impact of work processes and **working environments** on meeting quality arrangements.
2. Ensure that you encourage **the organisation** to develop and maintain processes, control systems and **working environments** which are appropriate for the activities undertaken and the people involved.
3. Ensure that you encourage **the organisation** to assess and improve processes and **working environments** to meet and improve quality standards.
4. Ensure that you encourage **the organisation** to keep the necessary records relating to processes and **working environments** and to make these available to authorised people when required.
5. Ensure that you accurately identify and advise on all legal requirements which affect the **quality** of products, services and processes.

To do this you need to know

- a) the principles and processes of effective communication and how to apply them
- b) the principle legal requirements of affecting the quality of products, services and quality
- c) the organisation's structure and the responsibilities of the people within it
- d) the work processes, control systems and working environments within the organisation and how to ensure these are appropriate
- e) the resources available and how these are used
- f) the records relating to processes and working environments which need to be kept
- g) the people who are authorised to see records relating to processes and working environments
- h) the potential impact of processes and working environments on meeting quality requirements
- i) the range of systems of control and how to develop appropriate systems
- j) the quality standards to which the organisation is working

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ELEMENT 4.12.2 Provide advice and support for the development of plans to improve quality systems

In carrying out this work you must:

1. Ensure that you accurately assess **the organisation's** ability to understand and achieve relevant quality standards and specifications
2. Ensure that you give **relevant people** the necessary information and support to develop **quality** systems and documentation, including the definition of quality responsibilities
3. Ensure that you enable **relevant people** to identify **the organisation's** current quality specifications and the process for developing them.
4. Ensure that you give **relevant people** the necessary support to develop implementation plans which include roles, responsibilities and realistic schedules.
5. Ensure that you give **relevant people** the necessary support to develop post-implementation monitoring procedures.
6. Ensure that you enable **relevant people** to agree implementation plans and post-implementation monitoring schedules with those responsible.
7. Ensure that you encourage **relevant people** to give their active support for **quality** systems.

To do this you need to know

- a) the principles and processes of effective communication and how to apply them
- b) how to encourage people to give their active support for quality systems
- c) the principle types of monitoring procedures and how to develop them
- d) the culture of the organisation and its level of openness to adopting quality systems
- e) the organisation's structure and the responsibilities of the people within it
- f) the organisation's current quality specifications and how they were developed
- g) the importance of implementation plans and how to develop them
- h) how to estimate realistic time schedules
- i) how to help people to present, negotiate and agree plans and monitoring procedures
- j) the range of quality standards and specifications relevant to the organisation
- k) how to assess the type of quality standards relevant to the organisation
- l) how to assess the type of quality standards and specifications appropriate for the organisation
- m) how to develop quality systems and specifications
- n) how to define quality responsibilities

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ELEMENT 4.12.3 Provide advice and support for the development of measurement systems

In carrying out this work you must:

1. Ensure that you enable **relevant people** to identify the **organisation's quality** standards and current methods for measuring performance.
2. Ensure that you give **relevant people** the necessary information, advice, opportunities and encouragement to evaluate the effectiveness of the **organisation's** current performance measures.
3. Ensure that you enable **relevant people** to use performance measures and quality tools and techniques, and to incorporate them into the system design.
4. Ensure that you encourage **relevant people** to evaluate reports from auditors and other sources and use these in system design.
5. Ensure that you give **relevant people** the necessary information, advice and encouragement to develop clear and concise criteria for system design and use.
6. Ensure that you enable **relevant people** to design and introduce systems in ways that encourage participation.
7. Ensure that you enable **relevant people** to collect regular and timely information on how ell the system meets the criteria, and make any necessary improvements.
8. Ensure that you give information and advice in a manner, and at a level and pace appropriate to the needs of the recipients.

To do this you need to know

- a) how to evaluate the effectiveness of current performance measures
- b) the principles and processes of effective communication and how to apply them
- c) how to assess the information needs of recipients and modify the content and style of your presentation accordingly
- d) how to encourage participation in the design, introduction and use of measurement systems
- e) how to develop clear and concise criteria
- f) the organisation's structure and the responsibilities of the people within it
- g) the organisation's quality standards and current methods for measuring performance
- h) the range of performance measures, quality tools and techniques which could be used
- i) how to design performance measurement systems
- j) reports form auditors and other sources and how to interpret them
- k) sources of reports on performance measurement systems
- l) the frequency with which information should be collected from the measurement systems

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ELEMENT 4.12.4 Provide advice and support for the collection, analysis and documentation of information

In carrying out this work you must:

1. Ensure that you agree with **relevant people** the nature and extent of the support they need.
2. Ensure that you give **relevant people** clear and justifiable advice on how to use quality management tools and techniques in their work.
3. Ensure that you give support to ensure that any necessary documentation relating to quality management is made available within agreed timescales.
4. Ensure that you give support in a manner which is appropriate to the people concerned and demonstrates a respect for the individual.
5. Ensure that you encourage **relevant people** to report on progress with collecting, analysing and interpreting information and ask for further help when needed.

To do this you need to know

- a) the principles of effective communication
- b) how to provide clear and relevant advice
- c) the principles of confidentiality and respect for the individual and how to apply them
- d) the organisation's requirements for documentation relating to quality management
- e) how to establish the amount of support individuals and teams need
- f) how to provide support in an effective manner
- g) how to encourage feedback and requests for help when required
- h) the range of quality management tools and techniques
- i) the techniques of data collection, analysis and recording

Commentary for Unit 2.14:

Ensure your own actions aim to protect the environment

NB This unit is a tailored version of a Health and Safety unit produced by the Employment NTO, which was originally designated Unit H. This means that the wording of the unit differs slightly from the rest of the COGENT suite.

This unit is about minimising risks to the environment as a result of work activities. It describes the competence required to ensure that:

- your own actions do not create any risks to the environment
- you do not ignore significant risks to the environment

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- you take sensible action to put things right, including reporting risks, and seeking advice

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

2.14.1 Identify the risks to the environment arising as a result of workplace activities

2.14.2 Minimise risks to the environment arising as a result of workplace activities

Fundamental to this Unit is an awareness and understanding of the impact of working practices on the environment. It is important to have a basic understanding of good practice in protecting the environment. This Unit does not assume a person with high level responsibilities for the environment already exists in the workplace.

This unit is for: everyone at work (i.e. paid, unpaid, full-time, part-time) It is about maintaining good practice in day to day work activities by identifying the risks, minimising the risks and using resources responsibly.

This unit is about: the responsibilities of everyone at work for minimising risks to the environment as a result of work activities. It describes the competences required to ensure that:

- your own actions do not create any risks to the environment
- you do not ignore significant risks to the environment, and
- you take sensible action to put things right, including reporting risks, and seeking advice

This is what you need to show:

In element H.1: that you understand how activities at the workplace might affect the environment, how to check your own work activities and work area for any hazards which you or others may bring about and cause to the environment. You should be able to identify those hazards with significant risks which you can safely deal with yourself, and when you must report them to the “responsible person” for attention.

In element H.2: that you show you have taken steps to reduce risks to the environment which have arisen as a result of your action, or action by others with whom you might come into contact with during the course of your work. It covers carrying out tasks in accordance with instructions and the requirements of the workplace.

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement



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In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Environment with		This is a broad term which refers to the global environment which we all interact.
Hazards follows: “	A	The Health and Safety Executive (HSE) definition is as hazard is something with potential to cause harm”:
Risk/s likelihood		The Health and Safety Executive definition is “a risk is the of a hazard’s potential being realised”. In this unit these definitions apply equally to environmental hazards and risks. Risks to the environment covered by this unit are arising from: <ul style="list-style-type: none"> • the use of materials and substances hazardous to the environment • the disposal of waste, materials and substances hazardous to the environment • emission of gases, fumes or dust.
Workplace out. This		This is the single or multiple areas in which work is carried may be a shop, office, a manufacturing plant, outdoors, or an educational establishment.
Working practices equipment		These are any activities, procedures, use of materials or and working techniques used. It also covers any omissions in good working practice which may pose a threat to health and safety
Workplace policies		This covers documentation prepared by the employer on the procedures to be followed regarding environmental matters. It could be the employers environmental policy statement, or guidance covering aspects of the working practices or workplace that should be drawn to the employees’ (and “other persons”) attention.
Workplace environmental procedures		These contain the specific instructions or details for people at work to follow for a environmentally friendly working environment. They will contain the instructions, for example,

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on disposal of materials hazardous to the environment.
 Legal and workplace environmental procedures covered by this unit are:

- waste minimisation
- the use of environmentally safe working methods and equipment
- the use of personal protection equipment
- what to do in the event of an emergency involving environmental hazards
- authorisation for handling, storing, using or disposing hazardous materials, products or equipment.

Reporting procedures

Reporting procedures covered by this unit are:

- oral reports
- written reports

Responsible persons

The person or persons at work to whom you should report any health and safety issues and hazards. This could be a supervisor, line manager or employer.

ELEMENT 2.14.1 Identify the risks to the environment arising as a result of workplace activities

In carrying out this work you must be able to:

1. Correctly name and locate the **responsible persons** in the workplace to whom you should report environmental matters
2. Remain up-to-date on environmentally-friendly **working practices** which are relevant to your workplace
3. Identify any current **working practices** in your job role which could cause harm to the **environment**
4. Identify any materials, products or equipment used in any part of your job role which could cause harm to the **environment**
5. Report, accurately, any differences between legal and workplace regulations and the actual use of materials or products hazardous to the **environment**
6. Report, promptly, those hazards which present high risks to the **persons responsible** for environmental matters
7. Report, concisely and accurately, your **environment** awareness training needs to the appropriate persons

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To do this you need to know

- a) relevant aspects of the Environmental Protection Act and relevant regulations which will affect the workplace
- b) your duties for the environment as defined by any specific legislation covering your job role
- c) the particular risks to the environment which may be present in your workplace and/or in your own job role
- d) the importance of remaining alert to the presence of hazards to the environment in the whole work place
- e) the importance of dealing with or promptly reporting risks to the environment
- f) substances and processes categorised as hazardous to the environment
- g) workplace policies, precautions and procedures relating to controlling risks to the environment
- h) responsibilities for items (materials/equipment) hazardous to the environment in your job description
- i) the responsible persons to whom to report environmental matters

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ELEMENT 2.14.2 Minimise risks to the environment arising as a result of workplace activities

In carrying out this work you must be able to:

1. Follow the up-to-date legal requirements and **workplace environmental procedures** for your job role
2. Control these environmental hazards within your capability and the scope of your job responsibilities
3. Report, promptly, risks to the **environment** that you are able to deal with
4. Pass on any suggestions for limiting **risk/s** to the **environment** to the **responsible persons**
5. Follow suppliers', manufacturers' and workplace instructions for the safe use and storage of materials and products
6. Follow suppliers', manufacturers' and workplace instructions for the safe use and storage of equipment
7. Follow the correct procedure for handling materials and products hazardous to the **environment**
8. Follow the correct procedure for disposing of materials and products hazardous to the **environment**

To do this you need to know

- a) the specific workplace environmental procedures covering your job role
- b) suppliers', manufacturers' and workplace instructions for the use of equipment, materials and products hazardous to the environment
- c) how to use resources and materials effectively and efficiently
- d) working practices for your own job role
- e) correct handling procedures for materials hazardous to the environment
- f) your own responsibility for controlling hazards to the environment
- g) workplace requirements for handling hazards to the environment which you are unable to deal with

Commentary for Unit 3.2:

Control emergencies and critical situations in chemical, pharmaceutical and petro-chemical manufacture

NB This unit is a contextualised version of a unit produced by OPITO, which was originally designated Unit C5.

This unit is about controlling emergencies and critical solutions. This involves:

- maintaining a state of readiness
- controlling critical situations

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- co-ordinating the response to emergencies

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

3.2.1 Maintain a state of readiness

3.2.2 Control critical situations

3.2.3 Co-ordinate the response to emergencies

There is also a glossary of terms which appear within the unit and have a specific meaning.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation will only be considered relevant and acceptable in the rare or dangerous occurrences* (see below) in the assessment of this unit, to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for the rest of unit.

- *• health, safety and environmental issues
- emergency scenarios
- rare occurrences at work

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Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Emergency

Emergencies could include:

- fire
- release/spillage of materials
- release/spillage of materials
- explosion
- discovery of suspect package
- discovery of injured person
- accident involving person/equipment
- major services failure

Raising the alarm

This could be done by :

- mechanical/electrical means
- notifying someone else
- shouting

Action/operational requirements

Other actions to be taken could include:

- emergency shut down of the plant
- evacuation of the plant
- notifying other people
- assessing risk
- emergency first aid
- shut down of the operation

Communication/Communicate

To include spoken, written and/or electronic.

PPE

Personal Protective Equipment

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ELEMENT 3.2.1 Maintain a state of readiness

In carrying out this work you must:

1. Effectively access current **emergency** procedures and report all anomalies
2. Identify all conditions which may affect the **emergency** response
3. Effectively hand over all safety critical information
4. Correctly take part in drills and exercises
5. Work safely in accordance with **operational requirements**

To do this you need to know

- a) how to select, use and care for PPE (to include sight/hearing protection, gloves, footwear, hard hats, respirators)
 - b) the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
 - c) how to interpret operational requirements (e.g. policies, procedures, instructions, codes of practice, standards, schedules)
 - d) emergency procedures for the installation
 - e) plant layout and its integration with other processes and systems
 - f) the internals of equipment and their function and operation
 - g) methods and consequences of isolation and depressurisation
 - h) functioning of remote process control (to include instrumentation and logic)
 - i) normal operating parameters and their tolerances
 - j) how to access and interpret drawings and manuals regarding the plant
 - k) the composition and properties of produced fluids and gases (to include toxicity, flammability, specific gravity (SG), temperature)
 - l) the reactions taking place and the effect of changes to the physical and chemical properties
 - m) the effects of changes in ambient conditions on plant operation
 - n) the principles and effect of Hydrocarbon hydrate formation, prevention and dispersion
 - o) the operation of and potential implications of the ESD control systems
 - p) the operation of and potential implications of the Fire and Gas control systems
 - q) the effect and potential implications of loss of any system and its reinstatement
 - r) consequences of emissions to the environment
 - s) how to access and interpret the status of the appropriate equipment and systems, to include detection; protection; communications; evacuation
 - t) how to access and interpret the status of operations and simultaneous operations
 - u) how to access and interpret information on weather conditions
- how to access and interpret information on the availability of key emergency response personnel

ELEMENT 3.2.2 Control critical situations

In carrying out this work you must:

1. Identify developing and existing critical solutions

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2. Activate all relevant **alarms** and take appropriate **action** to the situation
3. Effectively monitor the situation and minimise risks to personnel, process, plant and equipment
4. Report the critical situation correctly
5. Work safely in accordance with **operational requirements**

To do this you need to know

- a) how to select, use and care for PPE (to include sight/hearing protection, gloves, footwear, hard hats, respirators)
- b) the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- c) how to interpret operational requirements (e.g. policies, procedures, instructions, codes of practice, standards, schedules)
- d) emergency procedures for the installation
- e) plant layout and its integration with other processes and systems
- f) the internals of equipment and their function and operation
- g) methods and consequences of isolation and depressurisation
- h) functioning of remote process control (to include instrumentation and logic)
- i) normal operating parameters and their tolerances
- j) how to access and interpret drawings and manuals regarding the plant
- k) the composition and properties of produced fluids and gases (to include toxicity, flammability, specific gravity (SG), temperature)
- l) the reactions taking place and the effect of changes to the physical and chemical properties
- m) the effects of changes in ambient conditions on plant operation
- n) the operation of and potential implications of the ESD control systems
- o) the operation of and potential implications of the Fire and Gas control systems
- p) the effect and potential implications of loss of any system and its reinstatement
- q) consequences of emissions to the environment
- r) the operations of and potential implications of the Emergency Shutdown control systems
- s) the operation of and potential implications of the Fire and Gas control systems

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ELEMENT 3.2.3 Co-ordinate the response to emergencies

In carrying out this work you must

1. Accurately identify and immediately take the **actions** required to make the situation safe
2. Activate all relevant **alarms**
3. Effectively **communicate** all relevant information and instructions
4. Clarify and act upon information received
5. Record critical information
6. Work safely in accordance with **operational requirements**

To do this you need to know

- a) how to select, use and care for PPE (to include sight/hearing protection, gloves, footwear, hard hats, respirators)
- b) the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- c) how to interpret operational requirements (e.g. policies, procedures, instructions, codes of practice, standards, schedules)
- d) emergency procedures for the installation
- e) plant layout and its integration with other processes and systems
- f) the internals of equipment and their function and operation
- g) methods and consequences of isolation and depressurisation
- h) functioning of remote process control (to include instrumentation and logic)
- i) normal operating parameters and their tolerances
- j) how to access and interpret drawings and manuals regarding the plant
- k) the composition and properties of produced fluids and gases (to include toxicity, flammability, specific gravity (SG), temperature)
- l) the reactions taking place and the effect of changes to the physical and chemical properties
- m) the effects of changes in ambient conditions on plant operation
- n) the operation of and potential implications of the ESD control systems
- o) the operation of and potential implications of the Fire and Gas control systems
- p) the effect and potential implications of loss of any system and its reinstatement
- q) consequences of emissions to the environment
- r) how to react appropriately (to include make safe; isolate; shutdown; evacuate the work area; informing connecting installations and others; do nothing; activate internal emergency response teams; inform duty personnel; inform adjacent facilities; activate ESD; account for people)
- s) those who must be contacted and how to contact them

Unit 3.9 : Allocate personnel to maintain processing



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This unit addresses the competence required to allocate personnel to ensure the processing operation achieves its objectives. This involves:

- planning the work of teams and individuals
- providing feedback when necessary for teams and individuals
- ensuring planned process objectives are achieved
- maintaining your own and other's safety while working

There are two elements in this unit, each of which has performance standards and a knowledge base associated with it.

3.9.1 Plan the work

3.9.2 Achieve the objectives

Element 3.9.1 Plan the work

Performance statements

In achieving this unit you must:

- a. Check that you have the required **work schedule** and that it is clear and complete
- b. Check that you have the required **objectives** and that they are clear and complete
- c. **Allocate work** taking into account **team members** and/or individuals abilities
- d. Ensure the **plans** and **schedules** cover all relevant personnel
- e. Ensure plans and schedules are realistic and achievable within **organisational constraints**
- f. Check that all **team members** and/or individuals agree with the **plans** and **schedules**
- g. Confirm team members and/or individuals agree with, and understand the **plans** and **schedules**
- h. When appropriate wear **PPE**
- i. **Communicate**, when required, with relevant personnel
- j. Deal promptly with any **problems** that occur in the planning stage of the operation
- k. Follow safe working procedures at all times
- l. Complete any required **documentation** accurately and clearly

Knowledge and Understanding

- i. the meaning of terms used in work schedules
- ii. the objectives which need to be achieved
- iii. the importance of meeting objectives
- iv. how to allocate work taking into account individual's/ team member's abilities
- v. the importance of ensuring plans and schedules cover all personnel
- vi. what organisational constraints there are and how they may affect the plans and schedules
- vii. the importance of gaining agreement
- viii. the importance of confirming that individuals and team members agree and understand the plans and schedules
- ix. the importance of communication, keeping others informed during the operation
- x. the problems that may occur in the planning stage
- xi. your personal responsibilities with regard to health, safety and environment
- xii. what personal protective equipment to use and why
- xiii. the types of problems that can occur and how to recognise and deal with them
- xiv. who to contact if there is an unsolvable problem and/ or it is not your responsibility
- xv. what documentation needs to be used and how to complete it

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Element 3.9.2 Achieve the objectives

Performance statements

In achieving this unit you must:

- a. Check that you have the required work **schedule/objectives** and that they are clear and complete
- b. **Monitor** actual **performance**
- c. Assess the **performance** against agreed **plans** and **schedules**
- d. Provide **feedback** to individuals and/or team members when appropriate
- e. Take **corrective action** when necessary to ensure **objectives** are met
- f. Deal promptly with any **problems** that arise which may affect the achievement of **objectives**
- g. Inform the appropriate person of any **problems** which you cannot solve and/or which are not your responsibility
- h. Ensure that the relevant **documentation** is completed accurately and clearly
- i. When appropriate wear **PPE**
- j. Work safely at all times
- k. Ensure that security and **confidentiality** is observed when necessary

Knowledge and Understanding

- i. the required objectives and the importance of meeting objectives
- ii. methods of monitoring individuals and teams members performance
- iii. how to assess performance
- iv. the importance of comparing actual performance against planned performance
- v. methods of providing feedback
- vi. the importance of providing constructive feedback
- vii. what corrective action to take to meet objectives
- viii. typical problems that may occur
- ix. how to deal with problems that may affect the meeting of objectives
- x. why it is important to complete documentation clearly and accurately
- xi. who to report to with unsolvable problems and/or those which are not your responsibility
- xii. your personal responsibilities with regard to health, safety and the environment
- xiii. when and why PPE needs to be worn
- xiv. when it may be important to observe security/confidentiality at times

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Allocate work	Giving teams and individuals responsibility for tasks which should achieve agreed work objectives.
Confidentiality	Only providing information to those who are authorised to have it.
Feedback on performance	Information to give to others on how well they are performing against the objectives which have been agreed.
Objectives	Clearly defined results which you need to achieve which are specific, measurable, agreed with others, realistic and within time constraints.

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Organisational constraints	Organisational policies, objectives, level of resources which limit your actions and decisions.
Plans	Documents or spoken agreements which describe the work to be carried out, when, by whom, to what standard and with what resources, in the order that requirements and objectives can be met.
Schedules	Documents showing the work to be done, when and sometimes by whom.
Team members	People who work with you as part of a functional or project team; team members may report to you either as their line/shift manger/foreman, or as the manger / foreman in charge of a specific process/ activity /project on which they are working.
Performance	How individuals and /or team members perform in relation to achievement of objectives.
Monitor	Method used to compare actual with planned performance.
Work schedule	The set of instructions which describe the work to be carried out, and the objectives that need to be achieved.
PPE	Personal protective equipment to be specified, when necessary.
Problems	These can relate to either personnel, materials , equipment , operating instructions and/or specifications. Where a problem requires a maintenance engineer, the person would be expected to report the problem to a more senior person.
Corrective actions	May include adjust, request extra personnel, other assistance or shutdown
Documentation	Including that relating to allocation of personnel, and any other relevant documentation.
Communication/ Communicate	To include either written, spoken and/or electronic
Health, safety and environmental legislation	To include all relevant legislation and company policy.

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

Unit 3.13 : Conduct an assessment of risks in the workplace

NB This unit is a tailored version of a Health and Safety unit produced by the Employment NTO, which was originally designated Unit G. This means that the wording of the unit differs slightly from the rest of the COGENT suite.



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This unit addresses the competence needed to identify hazards in the workplace, assess the level of risk resulting from those hazards, make recommendations to control the risk and review the results.

There are three elements in this unit, each of which has performance standards and a knowledge base associated with it.

- 3.13.1 Identify hazards in the Workplace
- 3.13.2 Assess the level of risk and recommend action
- 3.13.3 Review your workplace assessment of risks

Fundamental to this Unit is an understanding of the process of carrying out a risk assessment. A person competent in this unit should be able to carry out risk assessments according to regulatory requirements.

This unit is for: a person required to, or who has been asked to, carry out a risk assessment in the workplace. This could be an employer, line manager, supervisor, safety representative or employee.

This unit is about the competences needed to identify hazards in the workplace, assess the level of risk resulting from those hazards, make recommendations to control the risk and review the results.

This is what you need to show:

In element G.1: that you understand the process of identifying hazards in the workplace. You should be prepared for the hazard identification process, and investigate both those areas where risks are most likely to occur and those who might be harmed. You should be able to identify when to make use of expert advice and guidance on identifying hazards.

In element G.2: that you understand the criteria for assessing the level of risk. You should show you know the criteria for acceptable risks and understand when risks are acceptable. You should show you can prepare and present a report on the results of the risk assessment to include those significant findings of your risks assessment.

In element G.3: that you understand the importance of reviewing your assessment from time to time. This will include understanding when changed circumstances might affect your current assessment

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Element 3.13.1 Identify hazards in the workplace

Performance statements

In achieving his unit you must:

- a. Define clearly, why and where the **risk** assessment will be carried out
- b. Confirm that all the information available to you on statutory health and safety regulations is up-to-date and from recognised and reliable information sources
- c. Recognise your own limitations and seek expert advice and guidance on risk assessment when appropriate
- d. Select a method of identifying **hazards** appropriate to the workplace being assessed
- e. Ensure your investigation fully identifies those areas in the workplace where hazards with a potential for serious harm to health and safety are most likely to occur
- f. Identify **hazards** which could result in serious harm to **others**
- g. Record those **hazards** in a way which meets legal, good practice and **workplace** requirements
- h. Report the results of the process to the **responsible persons** in an agreed format and timescale
- i. Work safely at all times

Knowledge and Understanding

- i. your legal duties for health and safety in the workplace as required by the Health and Safety at Work Act 1974
- ii. your duties for health and safety as defined by any specific legislation covering your job role
- iii. methods of identifying hazards including direct observation, examining records, or interview
- iv. hazards that are most likely to cause harm to health and safety
- v. the particular health and safety risks which may be present in your own job role and the precautions to be taken
- vi. the work areas and people for whom you are carrying out the assessment
- vii. work activities of the people in the workplace where you are carrying out the risk assessment
- viii. resources required for a risk assessment to take place
- ix. information sources for risk assessments (e.g. HSE publication)
- x. the importance of dealing with or promptly reporting risks
- xi. where to find expert advice and guidance

Element 3.13.2 Assess the level of risk and recommend action

Performance statements

In achieving this unit you must:

- a. Review all legal requirements that are appropriate to your **workplace** and **working practices** to ensure effective control measures are in place
- b. Confirm that industry standards and all other reasonable precautions are in place
- c. Identify **hazards** that could be eliminated
- d. Start your **risk** assessment for **hazards** that cannot be eliminated, with those **hazards** that are most likely to cause serious harm to **others**
- e. Assess the level of **risk/s** and consider how the **risk/s** can be controlled to minimise harm
- f. List unacceptable **risk/s** in priority order including all breaches of relevant health and safety legislation and workplace procedures
- g. Prepare a risk/s assessment report containing recommendations for minimising **risk/s**

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- h. Present the results of the risk/s assessment to **responsible persons** in the agreed format and timescale

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Knowledge and Understanding

- i. the responsibilities for risk assessments as required by the Management of Health and Safety at work Regulations 1992 and other related regulations
- ii. your legal duties for health and safety in the workplace as required by the Health and Safety at Work Act 1974
- iii. your duties for health and safety as defined by any specific legislation covering your job role
- iv. your own limitations, job responsibilities and capabilities
- v. the work areas and people for whom you are carrying out the assessment
- vi. effective procedures for carrying out a risk assessment
- vii. the purpose, legal implications and importance of carrying out a risk assessment
- viii. work activities of the people in the workplace where you are carrying out the risk assessment
- ix. resources required for a risk assessment to take place
- x. what to do with the results of the risk assessment
- xi. effective communication methods

Element 3.13.3 Review your workplace assessment of risks

Performance statements

In achieving this unit you must:

- a. Compare the latest **risk/s** assessment to current **workplace** and **working practices**
- b. Identify, accurately, any significant differences between previous and new **working practices**
- c. Investigate the action taken as a result of your recommendations specified in the latest **risk** assessment
- d. Identify, accurately, new **hazards** arising from changes in the **workplace** or **working practices**
- e. Make changes to your **risk/s** assessment in line with the review
- f. Inform, promptly, everyone affected by the changes

Knowledge and Understanding

- i. your legal duties for health and safety in the workplace as required by the Health and Safety at Work Act 1974
- ii. your duties for health and safety as defined by any specific legislation covering your job role
- iii. methods of identifying hazards
- iv. your own limitations, job responsibilities and capabilities
- v. the work areas and people for whom you are carrying out the assessment
- vi. work activities of the people in the workplace where you are carrying out the risk assessment
- vii. how to communicate effectively

Glossary of terms

The following terms have a specific meaning in this unit and are highlighted where they appear in the performance standards. In the context of NVQ/SVQ assessment, awarding bodies are required to make sure that a candidate's evidence of performance from the workplace demonstrates that their work is consistent with these terms as defined here.

Procedures
that will

Specifications of how to carry out work activities in a manner that will ensure the required outcomes if the procedure is followed accurately.



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specified. All workplace policies, practice and procedures should be

Resources

A range of resources which are used in any activity. These could include:

- Information, documentation and specifications
- manufacturer/supplier data for equipment and materials
- materials
- tools
- equipment

Hazard/risk important

The Health and Safety Executive (HSE) have defined two

concepts as follows: a hazard is something with the potential to cause harm: a risk is the likelihood of a hazard's potential being realised. The hazards covered by this unit are relating to:

- the use of plant and equipment
- the use of substances hazardous to health
- the workplace layout
- the working practices
- the job role
- people with special needs

Each organisation will have its own risk control strategy, the candidate will be required to work within this.

Risk become a

Almost anything may be a hazard, but may or may not risk. For example

- a trailing electrical cable from a piece of equipment is a hazard. If it is trailing across a passageway there is a high risk of someone tripping over it, but if it lies along a wall out of the way, the risk is much less
- toxic or flammable chemicals stored in a building are a hazard, and by their nature may present a high risk. However, if they are kept in a properly designed secure store, and handled by properly trained and equipped people, the risk is much less than if they are left about in a busy workshop for anyone to use - or misuse.
- a failed light bulb is a hazard. If it is just one bulb out of many in a room it presents very little risk, but if it is the only light on a stairwell, it is a very high risk. Changing the bulb may be a high risk, if it is high up, or if the power has been left on, or low risk if it is in a table lamp which has been unplugged.
- a box of heavy material is a hazard. It presents a higher risk to someone who lifts it manually than if a mechanical handling device is properly used.

Relevant people areas of

People who have expertise in and/or responsibility for the

work affected by the procedure. This is likely to include colleagues with production, safety, health, environment and quality specialisms.



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Problems	<p>Problems with others, and/or working practices.</p> <ul style="list-style-type: none"> • working policies which do not conform to laid down policies • unsafe behaviour • accidental breakages • accidental spillages • environmental factors
Work place your work.	<p>This is the single or multiple areas in which you carry out</p> <p>Changes in the workplace covered by this unit are in relation to:</p> <ul style="list-style-type: none"> • layout of workplace • new facilities and services
Working practices	<p>These are any activities, procedures , use of materials or equipment and working techniques used in carrying out your job. In this unit it also covers any omissions in good working practice which may pose a threat to health and safety. Previous and new working practices covered by this unit are relating to:</p> <ul style="list-style-type: none"> • plant, machinery and equipment • substances or materials • people
Workplace policies	<p>The Workplace Policies covered by this unit are documentation prepared by the employer on the procedures to be followed regarding health and safety matters. It could be the employer's safety procedures covering aspects of the workplace that should be drawn to the employees' (and "other persons") attention.</p>
Other persons	<p>This refers to everyone covered by the Health and Safety at Work Act including: visitors, members of the public, colleagues, contractors, clients, customers, patients, students, pupils.</p>
Personal presentation	<p>The includes: personal hygiene; use of personal protection equipment; clothing and accessories suitable to the particular workplace.</p>
Responsible persons	<p>The persons or persons at work to whom you should report any health and safety issues or hazards. This could be a supervisor, line manager or your employer. Responsible persons covered by this unit are:</p> <ul style="list-style-type: none"> • management associated with the examined activities • employees associated with the examined activities • decision makers • union representatives • staff representatives
Information sources	<p>Information sources covered by this unit are:</p> <ul style="list-style-type: none"> • internal Health and Safety experts • HSE offices • relevant industry publications

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- external organisations

Key points regarding Health and Safety legislation and regulations

“Health and Safety at Work Act 1974”

The Health and Safety at Work Act 1974 is the main piece of legislation under which nearly all other regulations are made. It is for this reason that only this piece of legislation is specifically referred to in this Unit.

Employers have a legal duty under this Act to ensure, so far as is reasonably practicable, the health, safety and welfare at work of the people for whom they are responsible and the people who may be affected by the work they do.

Under this Act it is also important to be aware that all people at work, not just employers, have a duty to take reasonable care to avoid harming themselves or others through the work they do.

Risks should be reduced “so far as is reasonably practicable”. This term means the duty-holder (in most instances the employer) can balance the cost against the degree of risk although obviously any Health and Safety Inspectors would expect that relevant good practice is followed.

According to the Act:

Employers must safeguard so far as is reasonably practicable, the health, safety and welfare at works of all the people who work for them and “other persons”. This applies in particular to the provision and maintenance of safe plant and systems of work, and covers all machinery, equipment and substances used.

People at work also have a duty under the Act to take reasonable care to avoid harm to themselves or to others by their working practices, and to co-operate with employers and others in meeting statutory requirements. The Act also requires employees not to interfere with or misuse anything provided to protect their health, safety or welfare in compliance with the Act.

Other Legislation

There is an array of health and safety regulations and codes of practice which affect people at work. There are regulations for those who, for example, work with electricity, or work on construction projects, as well as regulations covering noise at work, manual handling, working with VDUs, or dealing with substances hazardous to health, etc. The specific requirements for all or any of these can be obtained from HSE local offices.

As many of the regulations are only relevant to certain workplaces or working practices no specific reference has been made in the Knowledge Requirements to any of these regulations. The phrase “your responsibilities for health and safety as required by any specific legislation covering your job role” is intended to relate to those specific pieces of legislation important to your workplace and/or working practices which you should be able to find out about

Assessment Strategy Statement

In the context of N/SVQ assessment, the use of simulation is not acceptable in the assessment of this unit to cover the full scope as defined by the glossary of the unit. Workplace performance evidence is mandatory for this unit.

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Unit 3.15 : Enable learning through demonstrations and instruction

NB: This unit has been imported directly from the Employment NTO (No L 11)

Overview

This unit is appropriate for you if your role involves:

- demonstrating skills and methods to learners
- instructing learners in procedures and processes

The activities you are likely to be involved in:

- demonstrating how equipment is used
- showing a learner how to do something
- giving learners instructions on what to do or how to carry out a particular activity
- deciding when you should use demonstration or instruction to encourage learning
- reviewing the potential use of technology-based learning
- checking on the progress of learners
- giving feedback to learners

What the unit covers:

- 1 demonstrating skills and methods to learners
- 2 instructing learners

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Element L11.1: Demonstrate skills and methods to learners

Performance criteria

You must be able to do the following:

- a Base the demonstration on an analysis of the skills needed and the order they must be learned in.
- b Ensure that the demonstration is accurate and realistic.
- c Structure the demonstration so the learner can get the most out of it.
- d Encourage learners to ask questions and get explanation at appropriate stages in the demonstration.
- e Give learners the opportunities to practise the skill being demonstrated and give them positive feedback.
- f Give extra demonstrations of the skills being taught to reinforce learning.
- g Ensure that demonstrations take place in a safe environment and allow learners to see the demonstration clearly.
- h Respond to the needs of learners during the demonstration.
- i Reduce distractions and disruptions as much as possible.

Element L11.2: Instruct learners

Performance criteria

You must be able to do the following:

- a Match instruction to the needs of the learners.
- b Identify which learning outcomes will be achieved through instruction.
- c Ensure that the manner, level and speed of the instruction encourages learners to take part.
- d Regularly check that learners understand and adapt instruction as appropriate.
- e Give learners positive feedback on the learning experience and the outcomes achieved.
- f Identify anything that prevents learning and review this with the learners.

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Knowledge requirements

You need the following knowledge to perform this Unit of Competence. You will show this through the outcome of your work activities and through evaluations of your systems and processes.

You need to be able to show that you have general knowledge and understanding of the following:

The nature and role of demonstrations and instruction

- 1 the separate areas of demonstrations which encourage learning
- 2 which types of learning are best achieved and supported through demonstrations
- 3 how to identify and use different learning opportunities
- 4 how to structure demonstrations and instruction sessions
- 5 how to choose from a range of demonstration techniques

Principles and concepts

- 6 how to put learners at their ease and encourage them to take part
- 7 how to choose between demonstration and instruction as learning methods
- 8 how to identify individual learning needs
- 9 which factors are likely to prevent learning and how to overcome them
- 10 how to check learners' understanding and progress
- 11 how to put information in order and decide whether the language you will be using is appropriate for the learners
- 12 how to choose and prepare appropriate materials, including technology-based materials
- 13 the separate areas of instructional techniques which encourage learning
- 14 which types of learning are best achieved and supported through instruction

External factors influencing human resource development

- 15 how to make sure everybody acts in line with health, safety and environmental protection legislation and best practice
- 16 how to analyse and use developments in learning and new ways of delivery, including technology-based learning

Assessment Strategy Statement

In the context of N/SVQ assessment, evidence must be derived from workplace performance.