

2339-41 Level 3 Diploma in Electrical Power Engineering - Lead Substation Crafts Person

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Qualification at a glance

Subject area	Electrical Power Engineering
City & Guilds number	2339
Age group approved	16+
Assessment	Portfolio of evidence
Support materials	Centre handbook
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

Title and level	City & Guilds number	Accreditation number
Level 3 Diploma in Electrical Power Engineering – Lead Substation Crafts Person	2339-41	500/7971/2



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1 Introduction

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

Area	Description
Who is the qualification for?	It is for learners who work or want to work as a Lead Substation Crafts Person in the Electrical Power Engineering sector
What does the qualification cover?	It allows learners to learn, develop and practise the skills required for employment and/or career progression in the Electrical Power Engineering sector.
What opportunities for progression are there?	It allows learners to progress into employment or to the following City & Guilds qualifications: <ul style="list-style-type: none"> • Level 3 Diploma in Electrical Power Engineering - Substation Plant: 500/7323/0 • Level 3 Diploma in Electrical Power Engineering - Substation Plant: 500/7323/0 • Level 3 Diploma in Electrical Power Engineering - Underground Cables: 500/7324/2 • Level 3 Diploma in Electrical Power Engineering - Overhead Lines: 500/7318/7

Structure

To achieve the **Level 3 Diploma in Electrical Power Engineering – Lead Substation Crafts Person** learners must achieve **147** credits overall. **29** credits from mandatory units, a minimum of **32** credits from 2 units from optional group A, a minimum of **80** credits from 4 units from optional group B and a minimum of **6** credits from optional group C.

Unit accreditation number	City & Guilds unit number	Unit title	Credit value
Mandatory			
A/601/5013	Unit 301	Complying with statutory and organisational safety requirements	5
H/600/7391	Unit 202	Protect the environment during transmission maintenance activities	12

M/600/7412	Unit 203	Maintain safety form the electrical system (control of working parties)	12
Optional group A (minimum 32 credits from 2 units)			
T/600/7492	Unit 204	Access and egress the HV substation work area	12
K/600/7473	Unit 205	Install substation transmission plant and equipment	20
M/600/7473	Unit 206	Maintain substation transmission plant and equipment	20
Optional group B (minimum 80 credits from 4 units)			
T/600/7475	Unit 207	Co-ordinate maintenance activities on transmission switchgear	21
A/600/7476	Unit 208	Co-ordinate maintenance activities on transmission transformers	21
F/600/7477	Unit 209	Co-ordinate maintenance activities on transmission compressed air systems	21
F/600/7480	Unit 210	Co-ordinate maintenance activities on transmission auxiliary equipment	21
L/600/7482	Unit 211	Carry out test activities on transmission protection equipment	20
Y/600/7484	Unit 212	Emergency response to substation transmission plant failure	20

J/600/7464	Unit 213	Carry out switching activities on the HV network	20
D/600/7485	Unit 214	Configure transmission ancillary equipment to meet operational requirements	20
Optional group C (minimum of 6 credits)			
F/600/5700	Unit 318	Authorise actions on plant and apparatus in electricity power utilities environment	6
L/600/6140	Unit 319	Lead the work of teams and individuals to achieve work objectives	6
A/600/5663	Unit 320	Develop yourself in the work role	6
Y/600/6142	Unit 321	Contribute to technical leadership	6



2 Centre requirements

Approval

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

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

Resource requirements

Physical resources and site agreements

Any centre wishing to deliver these qualifications must have access to the appropriate plant, apparatus and equipment that will enable learners to obtain the required evidence to achieve the unit and /or diploma. For this reason it is likely that centres will be either specialist providers or partnered with power sector companies.

On their approval visit the qualifications consultant confirm that centres have the required physical resources with which to deliver the diplomas.

Centre staffing

In line with the sector skills council Energy & Utility's assessment strategy, all **assessors, internal quality assurers** and **qualifications consultants** involved in the delivery of Power sector qualifications must:

- Demonstrate a high level of interpersonal and communication skills, comparable with at least the Key Skills and Core Skills (Communication) identified within "Develop productive working relationships with colleagues" (MSC D1)
- Have up-to-date knowledge of current practice and emerging issues within their industry and be aware there may be differences between the four UK countries
- Have a thorough understanding of the National Occupational Standards / assessment units for the qualifications they are assessing or verifying and be able to interpret them and offer advice on assessment-related matters
- Show experience and working knowledge of the assessment and verification processes relating to the context in which they are working
- Demonstrate they have relevant and credible technical and/or industrial experience not more than 5 years old - at a level relevant to their role and the award
- Show they are able to act as an emissary of the awarding body and be able to facilitate consistency across centres

- Centre staff should hold, or be working towards, the relevant Assessor/Internal Quality Assurer TAQA qualification for their role in delivering, assessing and verifying this qualification, or meet the relevant experience requirements outlined above.
- Demonstrate a commitment to continuing professional development and to keeping abreast of the changing environment and practices in their industry
- Demonstrate they have relevant and credible technical and/or industrial experience within the industry appropriate to these contexts – overhead, underground or substation.

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

Continuing professional development (CPD)

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

Learner entry requirements

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

Age restrictions

City & Guilds cannot accept any registrations for learners under 16 as this qualification is not approved for under 16s.



3 Delivering the qualification

Initial assessment and induction.

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

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

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

Recording documents

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

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

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

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



4 Assessment

Candidates must:

- have a completed portfolio of evidence for each unit.

Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience or qualifications which have already been achieved to contribute to a new qualification.

RPL is allowed and is not sector specific.



5 Units

Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- guided learning hours
- unit aim
- relationship to NOS, other qualifications and frameworks
- endorsement by a sector or other appropriate body
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria

Unit 301

Complying with statutory regulations and organisational safety requirements

UAN:	A/601/5013
Level:	2
Credit value:	5
GLH:	35
Aim:	<p>This unit covers the skills and knowledge needed to prove the competences required to deal with statutory regulations and organisational safety requirements. It does not deal with specific safety regulations or detailed requirements, it does, however, cover the more general health and safety requirements that apply to working in an industrial environment.</p> <p>The learner will be expected to comply with all relevant regulations that apply to their area of work, as well as their general responsibilities as defined in the Health and Safety at Work Act. The learner will need to be able to identify the relevant qualified first aiders and know the location of the first aid facilities. The learner will have a knowledge and understanding of the procedures to be adopted in the case of accidents involving injury and in situations where there are dangerous occurrences or hazardous malfunctions of equipment, processes or machinery. The learner will also need to be fully conversant with their organisation's procedures for fire alerts and the evacuation of premises.</p> <p>The learner will also be required to identify the hazards and risks that are associated with their job. Typically, these will focus on their working environment, the tools and equipment that they use, the materials and substances that they use, any working practices that do not follow laid-down procedures, and manual lifting and carrying techniques.</p>

Learning outcome
The learner will: 1. be able to comply with statutory regulations and organisational safety requirements.
Assessment criteria
The learner can: 1.1 comply with their duties and obligations as defined in the Health and Safety at Work Act 1.2 demonstrate their understanding of their duties and obligations to health and safety by: <ul style="list-style-type: none"> • applying in principle their duties and responsibilities as an individual under the Health and Safety at Work Act • identifying, within their organization, appropriate sources of information and guidance on health and safety issues, such as: <ul style="list-style-type: none"> o eye protection and personal protective equipment (PPE) o COSHH regulations o risk assessments • identifying the warning signs and labels of the main groups of hazardous or dangerous substances • complying with the appropriate statutory regulations at all times
1.3 present themselves in the workplace suitably prepared for the activities to be undertaken
1.4 follow organisational accident and emergency procedures
1.5 comply with emergency requirements, to include: <ul style="list-style-type: none"> • identifying the appropriate qualified first aiders and the location of first aid facilities • identifying the procedures to be followed in the event of injury to themselves or others • following organisational procedures in the event of fire and the evacuation of premises • identifying the procedures to be followed in the event of dangerous occurrences or hazardous malfunctions of equipment
1.6 recognise and control hazards in the workplace
1.7 identify the hazards and risks that are associated with the following: <ul style="list-style-type: none"> • their working environment • the equipment that they use • materials and substances (where appropriate) that they use • working practices that do not follow laid-down procedures
1.8 use correct manual lifting and carrying techniques
1.9 demonstrate one of the following methods of manual lifting and carrying <ul style="list-style-type: none"> • lifting alone • with assistance of others • with mechanical assistance
1.10 apply safe working practices and procedures to include: <ul style="list-style-type: none"> • maintaining a tidy workplace, with exits and gangways free from obstruction

- using equipment safely and only for the purpose intended
- observing organizational safety rules, signs and hazard warnings
- taking measures to protect others from any harm resulting from the work that they are carrying out.

Learning outcome

The learner will:

2. know how to comply with statutory regulations and organisational safety requirements.

Assessment criteria

The learner can:

- 2.1 describe the roles and responsibilities of themselves and others under the Health and Safety at Work Act, and other current legislation (such as the management of Health and Safety At Work Regulations, Workplace Health and Safety and Welfare Regulations, Personal Protective Equipment at Work Regulations, Manual Handling Operations Regulations, Provision and Use of Work Equipment Regulations, Display Screen at Work Regulations, Reporting of Injuries, Diseases and Dangerous Occurrences Regulations)
- 2.2 describe the specific regulations and safe working practices and procedures that apply to their work activities
- 2.3 describe the warning signs for the seven main groups of hazardous substances defined by Classification, Packaging and Labelling of Dangerous Substances Regulations
- 2.4 explain how to locate relevant health and safety information for their tasks, and the sources of expert assistance when help is needed
- 2.5 explain what constitutes a hazard in the workplace (such as moving parts of machinery, electricity, slippery and uneven surfaces, poorly placed equipment, dust and fumes, handling and transporting, contaminants and irritants, material ejection, fire, working at height, environment, pressure/stored energy systems, volatile, flammable or toxic materials, unshielded processes, working in confined spaces)
- 2.6 describe their responsibilities for identifying and dealing with hazards and reducing risks in the workplace
- 2.7 describe the risks associated with their working environment (such as the tools, materials and equipment that they use, spillages of oil, chemicals and other substances, not reporting accidental breakages of tools or equipment and not following laid down working practices and procedures)
- 2.8 describe the processes and procedures that are used to identify and rate the level of risk (such as safety inspections, the use of hazard checklists, carrying out risk assessments, COSHH assessments)
- 2.9 describe the first aid facilities that exist within their work area and within the organisation in general; the procedures to be followed in the case of accidents involving injury
- 2.10 explain what constitute dangerous occurrences and hazardous malfunctions, and why these must be reported even if no-one is injured

- 2.11 describe the procedures for sounding the emergency alarms, evacuation procedures and escape routes to be used, and the need to report their presence at the appropriate assembly point
- 2.12 describe the organisational policy with regard to fire fighting procedures, the common causes of fire and what they can do to help prevent them
- 2.13 describe the protective clothing and equipment that is available for their areas of activity
- 2.14 explain how to safely lift and carry loads, and the manual and mechanical aids available
- 2.15 explain how to prepare and maintain safe working areas; the standards and procedures to ensure good housekeeping
- 2.16 describe the importance of safe storage of tools, equipment, materials and products
- 2.17 describe the extent of their own authority, and to whom they should report in the event of problems that they cannot resolve.

Unit 202

Protect the environment during transmission maintenance activities

UAN:	H/600/7391
Level:	3
Credit value:	12
GLH:	90
Aim:	This unit is about minimising risks to life, property in an electricity power utility environment. This includes indoor and outdoor locations which may be on the property of customers or an organisation and may require particular care to minimise pollution and physical disturbance and the risk to life.

Learning outcome
The learner will: 1. be able to plan to minimise risk to life, property and the environment.
Assessment criteria
The learner can: 1.1 plan and carry out all work in line with company policy and procedures 1.2 conduct a site specific risk assessment in accordance with company policy and in line with Health and Safety and Environmental Regulations.

Learning outcome
The learner will: 2. be able to determine, prioritise and monitor risk to life, property and the environment.
Assessment criteria
The learner can: 2.1 establish potential hazards and assess the severity of the risk 2.2 prioritise and determine the actions necessary to minimise the risk in agreed timescale 2.3 monitor risk control measures and take corrective and remedial actions to minimise risk 2.4 follow and maintain safe working and environment practices consistent with control measure and in accordance with Health and Safety Regulations and Environmental Legislation.

Learning outcome
The learner will: 3. be able to restore and reinstate work location.
Assessment criteria
The learner can: 3.1 store tools and equipment on completion of work activity in accordance with company procedures 3.2 dispose of waste materials and hazardous substances in accordance with Health and Safety and Environmental Regulations 3.3 leave the work area in a condition that is in line with Health and Safety Regulations and good housekeeping practice.

Learning outcome
The learner will: 4. be able to use and communicate data and information.
Assessment criteria
The learner can: 4.1 provide information necessary to maintain and update safety systems records 4.2 inform those affected by the risk of the risk control measures put in place and clarify the impact and implications that the measures will have on them personally 4.3 read and interpret company work instructions and supporting documentation connected with the work activity.

Learning outcome
The learner will: 5. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 5.1 report problems outside the limits of personal responsibility to designated personnel 5.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 6. be able to demonstrate general knowledge and understanding about protecting the environment during transmission maintenance activities.
Assessment criteria
The learner can: 6.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 6.2 state the company reporting lines and authorisation roles and responsibilities 6.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
<p>The learner will:</p> <p>7. be able to demonstrate specific knowledge and understanding about protecting the environment during transmission maintenance activities.</p>
Assessment criteria
<p>The learner can:</p> <p>7.1 explain how to read and interpret procedures and information sources to make sure that tools and equipment are fit for purpose and safe to use</p> <p>7.2 explain what personal protective equipment needs to be work when undertaking work activities</p> <p>7.3 explain what materials and substances are dangerous and hazardous to health</p> <p>7.4 explain how to maintain safe working and environmental practices throughout the duration of the work</p> <p>7.5 explain how to minimise risks to self and others when undertaking work activities</p> <p>7.6 state company work instruction, information and reporting systems and documentation</p> <p>7.7 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>7.8 explain the types and applications of construction elements</p> <p>7.9 demonstrate lifting and handling equipment methods and techniques</p> <p>7.10 explain the methods and techniques for dismantling access structures</p> <p>7.11 explain what type of actions can be taken to minimise risk from hazards</p> <p>7.12 state how to recognise and report inaccurate and incorrect work instructions and specification documents.</p>

Unit 202 Protect the environment during transmission maintenance activities

Supporting information

Guidance

Scope and range: You will need to provide evidence to show that you have during your normal work duties:

- Planned to minimise risk to life, property and the environment
- Determined, priorities and monitor risk to life, property and the environment
- Restored and reinstated work location
- Used and communicated data and information
- Resolved problems effectively and efficiently.

The evidence must be generated during substation or overhead line installation and maintenance and must include examples of – disposal of waste from work activities including packaging and crates, processing of insulating oil, SF6 handling, fuelling and the application and deployment of spill kits.

On three different work activities.

Unit 203

Maintain safety from the electrical system (control of working parties)

UAN:	M/600/7412
Level:	3
Credit value:	12
GLH:	90
Aim:	This unit is about monitoring and controlling the work of others. It involves providing support and guidance to colleagues to make sure the finished product meets the quality assured standards set by the organisation. It also involves following procedures to make sure that work activities are undertaken in a safe, productive and effective way.

Learning outcome
The learner will: 1. be able to plan to control working parties.
Assessment criteria
The learner can: 1.1 determine work location using work instructions and work plans 1.2 establish and locate the plant and equipment to be worked on in accordance with work instructions procedures 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 decide on the work to be undertaken by each individual assigned to the working party 1.5 develop a work plan in accordance with assigned work, work schedule and work objectives 1.6 conduct a site specific risk assessment following company procedures and in line with Health and Safety Regulations 1.7 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to control working parties.
Assessment criteria
The learner can: 2.1 inform those directly and indirectly responsible for undertaking the assigned work of the intended work plan 2.2 communicate and advise individual group members of their assigned work tasks and responsibilities 2.3 make sure that safe control measures are in place before work commences.

Learning outcome
The learner will: 3. be able to control work activities of working parties.
Assessment criteria
The learner can: 3.1 coordinate, adjust and maximize the use of resources of resources in accordance with work plans and work instructions 3.2 coordinate the work activities of the working party throughout the duration of the work in accordance with risk assessment, Health and Safety Rules and Regulation, work schedule and plan 3.3 provide guidance to others to make sure that the assigned work is conducted in accordance with the work plan and meets work specifications 3.4 monitor the progress and status of the work being undertaken in line with work schedule and planned activities 3.5 make sure that the finished work and product meets and complies company quality assurance standards and criteria set by the organisation and equipment operating specifications 3.6 make sure that safe control measures and procedures are complied with and followed throughout the duration of the work in line with safe control system requirements 3.7 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 make sure tools and equipment are stored on completion of work activity 4.2 make sure waste materials and hazardous substances are disposed in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 make sure that the work area is returned to a condition that is in line with Health and Safety Regulations and accordance with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information on process operations and activities.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 report the completion of work activities 5.4 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside limits of your own responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about maintaining safety from the electrical system (control of working parties).
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
<p>The learner will:</p> <p>8. be able to demonstrate specific knowledge and understanding about maintaining safety from the electrical system (control of working parties).</p>
Assessment criteria
<p>The learner can:</p> <p>8.1 state the company procedures and processes for reporting problems with tools and equipment</p> <p>8.2 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use</p> <p>8.3 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks</p> <p>8.4 identify what personal protective equipment needs to be work when undertaking work activities</p> <p>8.5 identify what materials and substances are dangerous and hazardous to health</p> <p>8.6 explain how to maintain safe working and environmental practices throughout the duration of the work</p> <p>8.7 explain how to minimise risks to self and others when undertaking work activities</p> <p>8.8 state company work instruction, information and reporting systems and documentation</p> <p>8.9 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>8.10 demonstrate how to read, interpret and complete authorisation procedures and documentation</p> <p>8.11 recognise and report inaccurate and incorrect work instructions and documentation</p> <p>8.12 demonstrate how to communicate and provide individuals and groups with accurate, precise and concise information, support and guidance</p> <p>8.13 explain how to plan work activities effectively and efficiently.</p>

Unit 203 Maintain safety from the electrical system (control of working parties)

Supporting information

Guidance

Scope and range: You will need to provide evidence to show that you have controlled working parties in either a substation or overhead line transmission environment you will need to show how you have:

- Planned to control working parties
- Prepared to control working parties
- Controlled work activities of working parties
- Restored and reinstated the work location
- Used and communicated data and information
- Resolved problems effectively and efficiently.

The evidence must be generated during either substation or overhead line installation and maintenance and must include the receiving of company safety documentation, the briefing of the working party, management of the working party during work activities, the withdrawal of the working party and the clearing of the safety document.

On three different occasions.

Unit 204

Access and egress the HV substation work area

UAN:	T/600/7492
Level:	3
Credit value:	12
GLH:	90
Aim:	This unit is about safe entry, egress and movement in an Electricity Power Utility environment. It involves procedures to be followed and measures to be taken to make sure that the working environment is free from obstacles and hazards that may cause harm to self, your work colleagues and the general public.

Learning outcome
The learner will: 1. be able to access, movement and egress in and from a site and work area.
Assessment criteria
The learner can: 1.1 plan and carry out all work in accordance with the organisations procedures 1.2 locate and recognise personnel authorised to control and supervise work activities in designated site and work area. 1.3 enter and exit a site in a safe and controlled manner in accordance with and complying with safe working systems 1.4 enter, move around and exit authorised and designated work areas within your personal authorisation in a safe and controlled manner in accordance with control measures 1.5 determine and take precautions to minimise risk to self and others when working in the vicinity of and when working on plant and apparatus 1.6 comply with instructions on the use of equipment and the wearing of personal protective equipment 1.7 carry out tasks safely in accordance with safety rules, codes and work instructions 1.8 recognise risks and associated with damaged plant, equipment and apparatus and risks associated with excavations 1.9 maintain and comply with site safety demarcation arrangements and control measures in accordance with Health and Safety Regulations and procedures.

Learning outcome
The learner will: 2. be able to restore and reinstate work location.
Assessment criteria
The learner can: 2.1 store tools and equipment on completion of the work activity 2.2 dispose of waste materials and hazardous substances 2.3 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 3. be able to use and communicate information and data.
Assessment criteria
The learner can: 3.1 report unavailable or defective tools, equipment and resources 3.2 read and interpret company work instructions and supporting documentation 3.3 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 4. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 4.1 deal with problems within the limits of own job role responsibility 4.2 report problems outside limits of your own responsibility to designated personnel.

Learning outcome
The learner will: 5. be able to demonstrate general knowledge and understanding about accessing and egressing the HV substation work area.
Assessment criteria
The learner can: 5.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 5.2 state the company reporting lines and authorisation roles and responsibilities 5.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
The learner will: 6. be able to demonstrate specific knowledge and understanding about accessing and egressing the HV substation work area.
Assessment criteria
The learner can: 6.1 state the company procedures and processes for reporting problems with tools and equipment 6.2 read and interpret procedures and information sources used to make sure that tools or equipment are fit for purpose and safe to use 6.3 state processes and procedures that need to be followed and complied with when inspecting and preparing tools or equipment prior to use 6.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 6.5 state what personal protective equipment needs to worn when undertaken work activities 6.6 explain materials and substances dangerous and hazardous to health 6.7 explain how to maintain safe working and environmental practices throughout the duration of the work 6.8 explain how to minimise risks to self and others when undertaking work activities 6.9 state organisations work instruction, information and reporting systems and documentation 6.10 state how to respond to the different types and categories of emergency situations that might occur 6.11 state work authorisation and permits to work procedures and documentation 6.12 explain how to recognise and minimise the impact of dangers and hazards that might cause harm or injury to self and others 6.13 explain how to recognise and report inaccurate and incorrect work instructions and documentation 6.14 state different access arrangement that need to be complied with in different areas.

Unit 204 Access and egress the HV substation work area

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have entered a High Voltage substation at 132 – 275 and 400 kV
- You will need to provide evidence to show that you have Safely accessed , moved and entered into, around and from a site entrance to the work area
- Restored and reinstate work location within the limits of your authority
- Used and communicate data and information in reference to site and work area access/egress
- Resolve problems effectively and efficiently.

On one occasion at each voltage specified within the range.

Unit 205

Install substation transmission plant and equipment

UAN:	K/600/7473
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about installing of plant and apparatus in an electricity power utility environment. It involve completing installation activities in a rigorous and methodical manner and the following of processes and procedures to make sure that the finishes work meets the quality assurance and operating specifications set by the organisation.

Learning outcome
The learner will: 1. be able to plan to install plant and apparatus.
Assessment criteria
The learner can: 1.1 determine the work location using company documentation and work instructions 1.2 conduct a site specific risk assessment in accordance with Health and Safety Regulations 1.3 determine the content and sequence of tasks needed to complete the work activity 1.4 inform parties directly and indirectly responsible for completing the work activity of the work plan 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to install plant and apparatus.
Assessment criteria
The learner can: 2.1 inspect, prepare and carry out pre use checks on tools and equipment required to complete work activity in accordance with work instructions and equipment specifications 2.2 select and wear required personal protective equipment when completing work activities in accordance with Health and Safety Regulations 2.3 establish and locate the plant and equipment to be installed in accordance with authorisation procedures 2.4 comply with control measures in line with company procedures to meet safe control system requirements.

Learning outcome
The learner will: 3. be able to install plant and apparatus.
Assessment criteria
The learner can: 3.1 install and secure plant and apparatus in accordance with equipment specification and procedures 3.2 check the completed installation work to make sure it meets and complies with the work instructions and equipment specifications 3.3 follow and maintain safe working and environment practices in accordance with company procedures, Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store tools and equipment on completion of the work activity 4.2 dispose of waste materials and hazardous substances 4.3 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about installing substation transmission plant and equipment.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about installing substation transmission plant and equipment.

Assessment criteria

The learner can:

- 8.1 state the company procedures and processes for reporting problems with tools and equipment
- 8.2 explain how to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use
- 8.3 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use
- 8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks
- 8.5 identify what personal protective equipment needs to worn when undertaken work activities
- 8.6 identify what materials and substances are dangerous and hazardous to health
- 8.7 explain how to maintain safe working and environmental practices throughout the duration of the work
- 8.8 explain how to minimise risks to self and others when undertaking work activities
- 8.9 state company work instruction, information and reporting systems and documentation
- 8.10 explain how to respond to the different types and categories of emergency situations that might occur
- 8.11 demonstrate how to install plant and apparatus using specified principles, methods, processes and procedures
- 8.12 explain how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 205 Install substation transmission plant and equipment

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have carried out the installation work within a team.
- You will need to provide evidence to show that you have carried out installation of:
- Transmission Plant and equipment which will include at least one the following items Transformer, Switchgear and auxiliary/support plant and equipment.

On three occasions, for at least one of the plant types listed, on three different projects.

Unit 206

Maintain substation transmission plant and equipment

UAN:	M/600/7473
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about maintaining plant and apparatus in an Electricity Power Utility Environment. It includes the processes and procedures to be followed to make sure that the completed maintenance work meets the quality assurance and operating specifications set by the organisation. It includes aspects of communication and the safe working practices that need to be followed in the workplace.

Learning outcome
The learner will: 1. be able to plan to install plant and apparatus.
Assessment criteria
The learner can: 1.1 determine the work location using company documentation and work instructions 1.2 conduct a site specific risk assessment in accordance with Health and Safety Regulations 1.3 determine the content and sequence of tasks needed to complete the work activity 1.4 inform parties directly and indirectly responsible for completing the work activity of the work plan 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to maintain plant and apparatus.
Assessment criteria
The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the maintenance work in accordance with work instructions and equipment specifications 2.2 select and wear required personal protective equipment to complete work activities in accordance with Health and Safety Regulations 2.3 apply with and follow control measures in line with safe control systems requirements 2.4 locate and establish the plant and apparatus to be maintained in accordance with work instructions 2.5 locate and establish the plant and equipment to be dismantled in accordance with authorisation procedures.

Learning outcome
The learner will: 3. be able to maintain plant and apparatus.
Assessment criteria
The learner can: 3.1 determine the defects and measure variations in the performance of equipment against its specification and performance criteria 3.2 maintain plant and apparatus in accordance with equipment specification and maintenance procedures 3.3 inspect and adjust finished product for compliance with work instructions and operating specifications 3.4 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store tools and equipment on completion of the work activity 4.2 dispose of waste materials and hazardous substances 4.3 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about maintaining substation transmission plant and equipment.
Assessment criteria
The learner can: 7.1 state the main principles of health and safety and environmental legislation and regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
The learner will: 8. be able to demonstrate specific knowledge and understanding about maintaining substation transmission plant and equipment.
Assessment criteria
The learner can: 8.1 state the company procedures and processes for reporting problems with tools and equipment 8.2 demonstrate how to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 8.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 8.5 identify what personal protective equipment needs to worn when undertaken work activities 8.6 identify what materials and substances are dangerous and hazardous to health 8.7 explain how to maintain safe working and environmental practices throughout the duration of the work 8.8 explain how to minimise risks to self and others when undertaking work activities 8.9 company work instruction, information and reporting systems and documentation 8.10 explain how to respond to the different types and categories of emergency situations that might occur 8.11 explain how to maintain plant and apparatus using specified assemble principles, methods, processes and procedures 8.12 state what handling techniques and equipment to adopt and use when maintaining plant and apparatus 8.13 state how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 206 Maintain substation transmission plant and equipment

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have carried out the maintenance as part of routine maintenance work within a team.
- You will need to provide evidence to show that you have carried out maintenance of:
- Transmission Plant and equipment which will include the following items Transformer, Switchgear and auxiliary/support plant and equipment.

On one occasion for each of the plant types listed.

Unit 207

Co-ordinate maintenance activities on transmission switchgear

UAN:	T/600/7475
Level:	3
Credit value:	21
GLH:	150
Aim:	This unit is about co-ordinating work activities on plant and apparatus in the electricity power utilities environment. It involves monitoring the use of resources and providing direction to others to make sure that work is conducted and completed in accordance with standards and procedures set by the organisation.

Learning outcome
The learner will: 1. be able to plan to assign work activities.
Assessment criteria
The learner can: 1.1 determine work location using work instructions and work plans 1.2 establish and locate the plant and equipment to be worked on in accordance with work instructions procedures 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 conduct a site specific risk assessment following company procedures and in line with Health and Safety Regulations 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to assign work activities.
Assessment criteria
The learner can: 2.1 inform those directly and indirectly responsible for undertaking the assigned work of the intended work plan 2.2 advise individual group members of their assigned work tasks and responsibilities. 2.3 make sure that safe control measures are in place before work commences.

Learning outcome
The learner will: 3. be able to monitor and coordinate work activities.
Assessment criteria
The learner can: 3.1 monitor the use of resources in accordance with work plan, equipment specification and work instructions 3.2 coordinate, adjust and maximize the use of resources of resources in accordance with work plans and work instructions 3.3 provide guidance to others to make sure that the assigned work is conducted in accordance with the work plan and meets work specifications. 3.4 make sure that the finished work and product meets and complies company quality assurance standards and criteria set by the organisation and equipment operating specifications 3.5 make sure that safe control measures and procedures are complied with and followed throughout the duration of the work in line with safe control system requirements 3.6 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 make sure tools and equipment are stored on completion of work activity 4.2 make sure waste materials and hazardous substances are disposed in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 make sure that the work area is returned to a condition that is in line with Health and Safety Regulations and accordance with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 report the completion of work activities 5.4 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about coordinating maintenance activities on transmission switchgear.
Assessment criteria
The learner can: 7.1 state the main principles of health and safety and environmental legislation and regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about coordinating maintenance activities on transmission switchgear.

Assessment criteria

The learner can:

- 8.1 state the company procedures and processes for reporting problems with tools and equipment
- 8.2 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use
- 8.3 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks
- 8.4 identify what personal protective equipment needs to worn when undertaken work activities
- 8.5 explain what materials and substances are dangerous and hazardous to health
- 8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of the work
- 8.7 explain how to minimise risks to self and others when undertaking work activities
- 8.8 state the Company work instruction, information and reporting systems and documentation
- 8.9 explain how to respond to the different types and categories of emergency situations that might occur
- 8.10 demonstrate how to read, interpret and complete authorisation procedures and documentation
- 8.11 recognise and report inaccurate and incorrect work instructions and documentation
- 8.12 demonstrate how to communicate to individuals and groups and provide them with accurate, precise and concise information and guidance
- 8.13 explain how to plan work activities effectively and efficiently.

Unit 207 Co-ordinate maintenance activities on transmission switchgear

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

- Coordinated maintenance activities on transmission switchgear as part of routine maintenance work and/or during the course of problem investigation. Including:
 - Planning and assigning work activities
 - Preparing to assign work activities
 - Monitoring and coordinating work activities
 - Restoring and reinstating the work location
 - Using and communicating data and information
 - Resolving problems effectively and efficiently.

- Coordinated the maintenance of the following transmission switchgear:
 - Transmission Bulk Oil Circuit Breakers
 - Transmission Air Blast Circuit Breakers
 - Transmission Sulphur Hexafluoride Circuit Breakers (open terminal or GIS).

On one occasion for each item at either 275 or 400 KV.

Unit 208

Co-ordinate maintenance activities on transmission transformers

UAN:	A/600/7476
Level:	3
Credit value:	21
GLH:	150
Aim:	This unit is about co-ordinating work activities on plant and apparatus in the electricity power utilities environment. It involves monitoring the use of resources and providing direction to others to make sure that work is conducted and completed in accordance with standards and procedures set by the organisation.

Learning outcome
The learner will: 1. be able to plan to assign work activities.
Assessment criteria
The learner can: 1.1 determine work location using work instructions and work plans 1.2 establish and locate the plant and equipment to be worked on in accordance with work instructions procedures 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 conduct a site specific risk assessment following company procedures and in line with Health and Safety Regulations 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to assign work activities.
Assessment criteria
The learner can: 2.1 inform those directly and indirectly responsible for undertaking the assigned work of the intended work plan 2.2 advise individual group members of their assigned work tasks and responsibilities. 2.3 make sure that safe control measures are in place before work commences.

Learning outcome
The learner will: 3. be able to monitor and coordinate work activities.
Assessment criteria
The learner can: 3.1 monitor the use of resources in accordance with work plan, equipment specification and work instructions 3.2 coordinate, adjust and maximize the use of resources of resources in accordance with work plans and work instructions 3.3 provide guidance to others to make sure that the assigned work is conducted in accordance with the work plan and meets work specifications. 3.4 make sure that the finished work and product meets and complies company quality assurance standards and criteria set by the organisation and equipment operating specifications 3.5 make sure that safe control measures and procedures are complied with and followed throughout the duration of the work in line with safe control system requirements 3.6 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 make sure tools and equipment are stored on completion of work activity 4.2 make sure waste materials and hazardous substances are disposed in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 make sure that the work area is returned to a condition that is in line with Health and Safety Regulations and accordance with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 report the completion of work activities 5.4 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about coordinating maintenance activities on transmission transformers.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
The learner will: 8. be able to demonstrate specific knowledge and understanding about coordinating maintenance activities on transmission transformers.
Assessment criteria
The learner can: 8.1 state the company procedures and processes for reporting problems with tools and equipment 8.2 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 8.3 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 8.4 identify what personal protective equipment needs to worn when undertaken work activities 8.5 explain what materials and substances are dangerous and hazardous to health 8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of the work 8.7 explain how to minimise risks to self and others when undertaking work activities 8.8 state the Company work instruction, information and reporting systems and documentation 8.9 explain how to respond to the different types and categories of emergency situations that might occur 8.10 demonstrate how to read, interpret and complete authorisation procedures and documentation 8.11 recognise and report inaccurate and incorrect work instructions and documentation 8.12 demonstrate how to communicate to individuals and groups and provide them with accurate, precise and concise information and guidance 8.13 explain how to plan work activities effectively and efficiently.

Unit 208 Co-ordinate maintenance activities on transmission transformers

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

- Coordinated maintenance activities on transmission transformers as part of routine maintenance work and/or during the course of problem investigation. Including:
 - Planning and assigning work activities
 - Preparing to assign work activities
 - Monitoring and coordinating work activities
 - Restoring and reinstating the work location
 - Using and communicating data and information
 - Resolving problems effectively and efficiently

- Coordinated the maintenance of the following transmission switchgear:
 - Selectors
 - Diverters
 - Main Tank and transformer auxiliary components – including transformer protections components

On one occasion for each item over a range of Transmission voltages.

Unit 209

Co-ordinate maintenance activities on transmission compressed air systems

UAN:	F/600/7477
Level:	3
Credit value:	21
GLH:	150
Aim:	This unit is about co-ordinating work activities on plant and apparatus in the electricity power utilities environment. It involves monitoring the use of resources and providing direction to others to make sure that work is conducted and completed in accordance with standards and procedures set by the organisation.

Learning outcome
The learner will: 1. be able to plan to assign work activities.
Assessment criteria
The learner can: 1.1 determine work location using work instructions and work plans 1.2 establish and locate the plant and equipment to be worked on in accordance with work instructions procedures 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 conduct a site specific risk assessment following company procedures and in line with Health and Safety Regulations 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to assign work activities.
Assessment criteria
The learner can: 2.1 inform those directly and indirectly responsible for undertaking the assigned work of the intended work plan 2.2 advise individual group members of their assigned work tasks and responsibilities. 2.3 make sure that safe control measures are in place before work commences.

Learning outcome
The learner will: 3. be able to monitor and coordinate work activities.
Assessment criteria
The learner can: 3.1 monitor the use of resources in accordance with work plan, equipment specification and work instructions 3.2 coordinate, adjust and maximize the use of resources of resources in accordance with work plans and work instructions 3.3 provide guidance to others to make sure that the assigned work is conducted in accordance with the work plan and meets work specifications. 3.4 make sure that the finished work and product meets and complies company quality assurance standards and criteria set by the organisation and equipment operating specifications 3.5 make sure that safe control measures and procedures are complied with and followed throughout the duration of the work in line with safe control system requirements 3.6 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 make sure tools and equipment are stored on completion of work activity 4.2 make sure waste materials and hazardous substances are disposed in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 make sure that the work area is returned to a condition that is in line with Health and Safety Regulations and accordance with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 report the completion of work activities 5.4 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about coordinating maintenance activities on transmission compressed air systems.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about coordinating maintenance activities on transmission compressed air systems.

Assessment criteria

The learner can:

- 8.1 state the company procedures and processes for reporting problems with tools and equipment
- 8.2 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use
- 8.3 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks
- 8.4 identify what personal protective equipment needs to worn when undertaken work activities
- 8.5 explain what materials and substances are dangerous and hazardous to health
- 8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of the work
- 8.7 explain how to minimise risks to self and others when undertaking work activities
- 8.8 state the company work instruction, information and reporting systems and documentation
- 8.9 explain how to respond to the different types and categories of emergency situations that might occur
- 8.10 demonstrate how to read, interpret and complete authorisation procedures and documentation
- 8.11 recognise and report inaccurate and incorrect work instructions and documentation
- 8.12 demonstrate how to communicate to individuals and groups and provide them with accurate, precise and concise information and guidance
- 8.13 explain how to plan work activities effectively and efficiently.

Unit 209

Co-ordinate maintenance activities on transmission compressed air systems

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

- Coordinated maintenance activities on transmission compressed air systems as part of routine maintenance work and/or during the course of problem investigation. Including:
 - Planning and assigning work activities
 - Preparing to assign work activities
 - Monitoring and coordinating work activities
 - Restoring and reinstating the work location
 - Using and communicating data and information
 - Resolving problems effectively and efficiently.

- Coordinated the maintenance of the following HV circuit breaker air supply system items:
 - Compressor
 - Air drier/conditioning equipment
 - Air control panel – filters, control valves and receivers.

On three occasions – one occasion must be at 400kV.

Unit 210

Co-ordinate maintenance activities on transmission auxiliary equipment

UAN:	F/600/7480
Level:	3
Credit value:	21
GLH:	150
Aim:	This unit is about co-ordinating work activities on plant and apparatus in the electricity power utilities environment. It involves monitoring the use of resources and providing direction to others to make sure that work is conducted and completed in accordance with standards and procedures set by the organisation.

Learning outcome
The learner will: 1. be able to plan to assign work activities.
Assessment criteria
The learner can: 1.1 determine work location using work instructions and work plans 1.2 establish and locate the plant and equipment to be worked on in accordance with work instructions procedures 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 conduct a site specific risk assessment following company procedures and in line with Health and Safety Regulations 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to assign work activities.
Assessment criteria
The learner can: 2.1 inform those directly and indirectly responsible for undertaking the assigned work of the intended work plan 2.2 advise individual group members of their assigned work tasks and responsibilities. 2.3 make sure that safe control measures are in place before work commences.

Learning outcome
The learner will: 3. be able to monitor and coordinate work activities.
Assessment criteria
The learner can: 3.1 monitor the use of resources in accordance with work plan, equipment specification and work instructions 3.2 coordinate, adjust and maximize the use of resources of resources in accordance with work plans and work instructions 3.3 provide guidance to others to make sure that the assigned work is conducted in accordance with the work plan and meets work specifications. 3.4 make sure that the finished work and product meets and complies company quality assurance standards and criteria set by the organisation and equipment operating specifications 3.5 make sure that safe control measures and procedures are complied with and followed throughout the duration of the work in line with safe control system requirements 3.6 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 make sure tools and equipment are stored on completion of work activity 4.2 make sure waste materials and hazardous substances are disposed in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 make sure that the work area is returned to a condition that is in line with Health and Safety Regulations and accordance with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 report the completion of work activities 5.4 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about coordinating maintenance activities on transmission auxiliary equipment.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
<p>The learner will:</p> <p>8. be able to demonstrate specific knowledge and understanding about coordinating maintenance activities on transmission auxiliary equipment.</p>
Assessment criteria
<p>The learner can:</p> <p>8.1 state the company procedures and processes for reporting problems with tools and equipment</p> <p>8.2 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use</p> <p>8.3 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks</p> <p>8.4 identify what personal protective equipment needs to worn when undertaken work activities</p> <p>8.5 explain what materials and substances are dangerous and hazardous to health</p> <p>8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of the work</p> <p>8.7 explain how to minimise risks to self and others when undertaking work activities</p> <p>8.8 state the company work instruction, information and reporting systems and documentation</p> <p>8.9 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>8.10 demonstrate how to read, interpret and complete authorisation procedures and documentation</p> <p>8.11 recognise and report inaccurate and incorrect work instructions and documentation</p> <p>8.12 demonstrate how to communicate to individuals and groups and provide them with accurate, precise and concise information and guidance</p> <p>8.13 explain how to plan work activities effectively and efficiently.</p>

Unit 210 Co-ordinate maintenance activities on transmission auxiliary equipment

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

- Coordinated maintenance activities on transmission auxiliary equipment as part of routine maintenance work and/or during the course of problem investigation. Including:
 - Planning and assigning work activities
 - Preparing to assign work activities
 - Monitoring and coordinating work activities
 - Restoring and reinstating the work location
 - Using and communicating data and information
 - Resolving problems effectively and efficiently.

- Coordinated the maintenance of the following auxiliary equipment:
 - • Transmission Disconnectors (rotating end and centre post)
 - • Transmission Earthing Switch and fixed earthing devices
 - • Busbars and Busbar Furniture.

On three occasions – one occasion must be at 400kV.

Unit 211

Carry out test activities on transmission protection equipment

UAN:	L/600/7482
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about replacing plant and apparatus in an electricity power utilities environment. It includes the processes and procedures to be followed to make sure that the completed work meets the quality assurance and operating specifications set by the organisation. It also involves the wearing of personal protective equipment whilst carrying out the work.

Learning outcome
The learner will: 1. be able to plan for work activities.
Assessment criteria
The learner can: 1.1 determine work location using company documentation and information sources 1.2 conduct a site specific risk assessment in accordance with health and safety regulations 1.3 determine the content and sequence of tasks needed to complete work activity 1.4 inform parties directly and indirectly responsible for completing work activity of the intended work plan 1.5 plan and carry out work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare for work activities.
Assessment criteria
The learner can: 2.1 select and prepare equipment, materials and resources required to complete work activity in accordance with work instructions and equipment specifications 2.2 select and wear required personal protective equipment to complete work activities in accordance with Health and Safety Regulations 2.3 apply control measures in line with safe control systems requirements 2.4 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose.

Learning outcome
The learner will: 3. be able to replace plant and apparatus.
Assessment criteria
The learner can: 3.1 replace plant and apparatus in accordance with work instructions 3.2 take precautions to prevent damage to plant and apparatus during its replacement 3.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 3.4 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store tools and equipment on completion of the work activity 4.2 dispose of waste materials and hazardous substances 4.3 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and supporting documentation 5.3 maintain documentation and report the completion of work activities in accordance with organisational requirements.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about carrying out test activities on transmission protection equipment.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about carrying out test activities on transmission protection equipment.

Assessment criteria

The learner can:

- 8.1 state the company procedures and processes for reporting problems with tools and equipment
- 8.2 explain how to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use
- 8.3 explain what processes and procedures need to be followed and complied with when performing switching operations
- 8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks
- 8.5 identify what personal protective equipment needs to worn when undertaking work activities
- 8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of the work
- 8.7 explain how to minimize risks to self and others when undertaking work activities
- 8.8 state the company work instruction, information and reporting systems and documentation
- 8.9 explain how to respond to the different types and categories of emergency situations that might occur
- 8.10 explain the sequence of processes and procedures that need to be followed and applied when performing switching operations
- 8.11 explain how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 211 Carry out test activities on transmission protection equipment

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have carried out the maintenance either as part of test work within a team or on your own including
 - Planning to test plant and apparatus
 - Preparing to test plant and apparatus
 - Testing plant and apparatus
 - Restore and reinstate the work location
 - Use and communicate data and information
 - Resolve problems effectively and efficiently.

- You will need to provide evidence to show that you have carried out maintenance of Transmission Hv System protection equipment to include the following items
 - Single element protection
 - Integrated protections (Distance or Unit)
 - To include - Over current, phase to phase & earth protection
 - Application of test equipment.

On three different occasions on different circuits/outages.

Unit 212

Emergency response to substation transmission plant failure

UAN:	Y/600/7484
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about responding to emergency plant failure in an electricity power utility environment. It involves ensuring that the cause of the plant failure is methodically and rigorously investigated to establish its nature and cause. It also involves determining what actions need to be taken to return the plant to its normal operating condition.

Learning outcome
The learner will: 1. be able to plan to respond to an emergency.
Assessment criteria
The learner can: 1.1 determine the location and nature of the plant failure using the company documentation and information sources 1.2 determine the range of processes and diagnostic tools and techniques to used to find the route cause of the plant failure 1.3 conduct a site specific risk assessment in accordance with Health and Safety Regulations 1.4 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to respond to an emergency.
Assessment criteria
The learner can: 2.1 select and wear required personal protective equipment to complete work activities in accordance with company policy, procedures and Health and Safety Regulations 2.2 inform parties directly and indirectly responsible for determining the nature of the fault of the intended work plan.

Learning outcome
The learner will: 3. be able to isolation of the fault and contingency action.
Assessment criteria
The learner can: 3.1 determine the impact caused by the fault on supply, the general public, the environment and work colleagues 3.2 take action to isolate the fault to reduce its impact on and danger to the general public, colleagues and plant and equipment.

Learning outcome
The learner will: 4. be able to diagnosis fault and recommend remedial actions.
Assessment criteria
The learner can: 4.1 collect information on the nature, extent and symptoms relating to the fault 4.2 determine the implications and impact of the fault on other work and for health and safety considerations 4.3 investigate, establish and locate the most likely cause of the of the fault using valid diagnostic tools and techniques 4.4 carry out fault diagnosis within agreed time limit and inform designated personnel when this cannot be achieved 4.5 use the evidence gained from the fault diagnosis findings to draw conclusions on the nature and cause of the fault 4.6 determine and recommend actions needed to return plant to specified condition 4.7 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 5. be able to restore and reinstate work location.
Assessment criteria
The learner can: 5.1 leave work area in a condition which is in line with good housekeeping practice 5.2 store tools and diagnostic equipment on completion of activity in accordance with company procedures.

Learning outcome
The learner will: 6. be able to demonstrate general knowledge and understanding about emergency response to substation transmission plant failure.
Assessment criteria
The learner can: 6.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 6.2 state the company reporting lines and authorisation roles and responsibilities 6.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
The learner will: 7. be able to demonstrate specific knowledge and understanding about emergency response to substation transmission plant failure.
Assessment criteria
The learner can: 7.1 state the company procedures and processes for reporting problems with tools and equipment 7.2 explain the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 7.3 identify what personal protective equipment needs to worn when undertaken work activities 7.4 explain how to minimise risks to self and others when undertaking work activities 7.5 read and interpret work instruction, information and reporting systems and documentation 7.6 explain how to respond to the different types and categories of emergency situations that might occur 7.7 demonstrate how to use diagnostic tools, techniques and procedures to determine the route cause of a plant failure 7.8 explain how to determine what are the appropriate actions should be take to isolate a fault when responding to a plant failure 7.9 explain how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 212 Emergency response to substation transmission plant failure

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have carried out the maintenance either as part of test work within a team or on your own including
 - Planning to test plant and apparatus
 - Preparing to test plant and apparatus
 - Testing plant and apparatus
 - Restore and reinstate the work location
 - Use and communicate data and information
 - Resolve problems effectively and efficiently.

- You will need to provide evidence to show that you have carried out maintenance of Transmission Hv System protection equipment to include the following items
 - Single element protection
 - Integrated protections (Distance or Unit)
 - To include - Over current, phase to phase & earth protection
 - Application of test equipment.

On three different occasions on different circuits/outages.

Unit 213

Carry out switching activities on the HV network

UAN:	J/600/7464
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about switching operations on plant and apparatus in electricity power utilities environment. It includes the processes and procedures to be followed to make sure that the completed switching operation meets the standards set by the organisation. It also involves the rigorous application of rules, regulations and work instructions to ensure that work is performed and completed safely without causing risk of injury to self and others.

Learning outcome
The learner will: 1. be able to plan for switching operation on plant and apparatus.
Assessment criteria
The learner can: 1.1 determine the work location using company documentation and work instructions 1.2 conduct a site specific risk assessment in accordance with Health and Safety Regulations 1.3 determine the content and sequence of tasks needed to complete the work activity 1.4 inform parties directly and indirectly responsible for completing the work activity of the work plan 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare for switching operations on plant and apparatus.
Assessment criteria
The learner can: 2.1 comply with instructions provided by authorised and designated personnel for switching operations on plant and apparatus in accordance with work instructions 2.2 inspect, prepare and carry out pre operation checks on tools and equipment required to perform switching operation in accordance with switching instructions and equipment specifications 2.3 select and wear required personal protective equipment when completing work activities in accordance with Health and Safety Regulations 2.4 locate plant and apparatus to be operated in accordance with company switching procedures and in line with switching instructions 2.5 locate and establish designated plant and apparatus selected for switching operation in accordance with switching instructions.

Learning outcome
The learner will: 3. be able to perform switching operations on plant and apparatus.
Assessment criteria
The learner can: 3.1 perform the switching operation in accordance with switching and work instructions 3.2 make sure the completed switching operation is compliant with operating procedures and work instructions 3.3 follow and maintain safe working and environmental practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work 3.4 communicate the status of the switching operation to authorised and designated personnel on its completion.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store tools and equipment on completion of the work activity 4.2 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report the status of the switching operation and record actions taken 5.2 read and interpret company work instructions and documentation.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside limits of your own responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about carrying out switching activities on the HV network.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about carrying out switching activities on the HV network.

Assessment criteria

The learner can:

- 8.1 state the company procedures and processes for reporting problems with tools and equipment
- 8.2 explain how to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use
- 8.3 explain what processes and procedures need to be followed and complied with when performing switching operations
- 8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks
- 8.5 identify what personal protective equipment needs to be worn when undertaking work activities
- 8.6 demonstrate how to maintain safe working and environmental practices throughout the duration of work
- 8.7 explain how to minimise risks to self and others when undertaking work activities
- 8.8 state company work instruction, information and reporting systems and documentation
- 8.9 explain how to respond to the different types and categories of emergency situations that might occur
- 8.10 explain the sequence of processes and procedures that need to be followed and applied when performing switching operations
- 8.11 explain how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 213 Carry out switching activities on the HV network

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

1. Carried out the routine switching of Transmission HV plant and apparatus and undertaken the following:

- Planned for switching operations on plant and apparatus
- Prepared for switching operations on plant and apparatus
- Perform switching operations on plant and apparatus
- Restore and reinstate the work location
- Use and communicate data and information
- Resolve problems effectively and efficiently.

2. Carried out the following switching activities post company authorisation

- Taken and carried out operational instructions, established points of isolation, applied Fixed Earthing Devices, operation of substation equipment and recorded switching activities.

You will need to carry out three switching operation on different Transmission circuits which must cover either different voltages (275 /400kV) or different Busbar configurations such as Mesh or Double Bus and its variants.

Unit 214

Configure transmission ancillary equipment to meet operational requirements

UAN:	D/600/7485
Level:	3
Credit value:	20
GLH:	150
Aim:	This unit is about configuring equipment in the electricity power utilities environment. It includes the processes and procedures to be followed to make sure that the plant and apparatus to be configured meets the quality assurance and operating specifications set by the organisation.

Learning outcome
The learner will: 1. be able to plan to configure plant and apparatus.
Assessment criteria
The learner can: 1.1 determine the work location using company documentation and work instructions 1.2 conduct a site specific risk assessment in accordance with Health and Safety Regulations 1.3 determine the content and sequence of tasks needed to complete the work activity 1.4 inform parties directly and indirectly responsible for completing the work activity of the work plan 1.5 plan and carry out all work in line with company policy and work procedures.

Learning outcome
The learner will: 2. be able to prepare to configure plant and apparatus.
Assessment criteria
The learner can: 2.1 inspect, prepare and carry out pre use checks on tools equipment in accordance with work instructions and equipment specifications 2.2 select and wear required personal protective equipment when completing work activities in accordance with Health and Safety Regulations 2.3 locate and establish the plant and equipment to be configured in accordance with authorisation procedures and work instructions.

Learning outcome
The learner will: 3. be able to configure plant and apparatus.
Assessment criteria
The learner can: 3.1 comply with control measures in line with safe control systems requirements 3.2 follow prescribed setting-up procedures for the equipment to be configured 3.3 configured equipment in accordance with work instructions and operating specifications 3.4 check the configured equipment meets its specified operating parameters and performance requirements 3.5 follow and maintain safe working and environment practices in accordance with Health and Safety Regulations and Environmental Legislation throughout the duration of the work.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store tools and equipment on completion of the work activity 4.2 dispose of waste materials and substances in accordance with company procedures, Health and Safety and Environmental Regulations 4.3 leave the work area in a condition which is in line with good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 report unavailable or defective tools, equipment and resources 5.2 read and interpret company work instructions and documentation 5.3 report results and findings test activities.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside limits of your own responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about carrying out switching activities on the HV network.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

8. be able to demonstrate specific knowledge and understanding about carrying out switching activities on the HV network.

Assessment criteria

The learner can:

- 8.1 explain the company procedures and processes for reporting problems with tools and equipment
- 8.2 read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use
- 8.3 identify what personal protective equipment needs to worn when undertaken work activities
- 8.4 explain how to maintain safe working and environmental practices throughout the duration of the work
- 8.5 explain how to minimise risks to self and others when undertaking work activities
- 8.6 identify company work instruction, information and reporting systems and documentation
- 8.7 explain how to respond to the different types and categories of emergency situations that might occur
- 8.8 explain how to read, interpret and apply prescribed “setting-up” documentation and procedures for configuring equipment
- 8.9 recognise and report inaccurate and incorrect work instructions and documentation.

Unit 214 Configure transmission ancillary equipment to meet operational requirements

Supporting information

Guidance

Scope and range:

- You must provide evidence to show that you have configured Substation plant and equipment to satisfy changing operational requirements.

- Your evidence will need to show that you have:
 - Planned to configure plant and apparatus
 - Prepared to configure plant and apparatus
 - Configured plant and apparatus
 - Restored and reinstated the work location
 - Used and communicated data and information
 - Resolved problems effectively and efficiently.

The following plant and equipment will meet the requirements of this unit: Battery Chargers, Compressors, low voltage distribution switchgear, transformer cooling equipment, emergency generator equipment.

You must provide evidence of a minimum of 3 from the above list of plant and equipment plant types listed.

Unit 318

Authorise actions on plant and apparatus in electricity power utilities environment

UAN:	F/600/5700
Level:	3
Credit value:	6
GLH:	36
Aim:	This unit is about the issuing of "authorisations for work" in the electricity power utilities environment. It involves specifying safety precautions, working methods and resources to ensure that the way in which work is done is in accordance with health and safety regulations and procedures set by the organisation.

Learning outcome
The learner will: 1. be able to plan and prepare for work activities.
Assessment criteria
The learner can: 1.1 determine work location using company documentation and information sources 1.2 conduct a site specific risk assessment following company policy and in line with Health and Safety Regulations 1.3 determine the methods to be used to reduce risks 1.4 identify the resources and activities that are needed to implement risk reduction 1.5 inform parties directly and indirectly responsible for completing risk reduction activities, of the location and controls to be used.

Learning outcome
The learner will: 2. be able to issue authorisations.
Assessment criteria
The learner can: 2.1 specify the procedures for implementing the risk reduction methods and the controls to be used 2.2 ensure that the risk reduction methods and procedures comply with all relevant regulations and guidelines 2.3 issue authorisations in line with specified procedures 2.4 ensure that the person receiving the authorisation has understood the requirements 2.5 select and wear required personal protective equipment when completing work activities in accordance with Health and Safety Regulations.

Learning outcome
The learner will: 3. be able to cancel, transfer and suspend authorisations.
Assessment criteria
The learner can: 3.1 check the status before cancelling, transferring or suspending an authorisation 3.2 cancel, transfer or suspend authorisation in line with specified procedures 3.3 ensure that everyone involved in the action is made aware that the authorisation has been cancelled, transferred or suspended.

Learning outcome
The learner will: 4. be able to restore and reinstate work location.
Assessment criteria
The learner can: 4.1 store barriers, notices and any forms of work area demarcation and equipment on completion of work activity in accordance with company procedure 4.2 dispose of waste materials and hazardous substances in accordance with Health and Safety and Environmental Regulations and Legislation 4.3 leave the work area in a condition that is in line with Health and Safety Regulations and in accordance with company policy, procedures and good housekeeping practice.

Learning outcome
The learner will: 5. be able to use and communicate data and information.
Assessment criteria
The learner can: 5.1 communicate authorisation requirements and the responsibilities of the individuals to the appropriate people 5.2 make sure that authorisation records are accurate, up to date, complete and stored correctly 5.3 report unavailable or defective barriers, notices or demarcation equipment and resources in accordance with company procedures 5.4 read and interpret company work instructions and documentation used to complete the work activity 5.5 maintain documentation and report the status of authorisations in accordance with company policy and procedures.

Learning outcome
The learner will: 6. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 6.1 deal with problems within the limits of own job role responsibility 6.2 report problems outside job role responsibility to designated personnel.

Learning outcome
The learner will: 7. be able to demonstrate general knowledge and understanding about authorising plant and apparatus in an electricity power utilities environment.
Assessment criteria
The learner can: 7.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 7.2 state the company reporting lines and authorisation roles and responsibilities 7.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
<p>The learner will:</p> <p>8. be able to demonstrate specific knowledge and understanding about authorising plant and apparatus in an electricity power utilities environment.</p>
Assessment criteria
<p>The learner can:</p> <p>8.1 explain general and discipline specific engineering principles and processes</p> <p>8.2 explain what materials and substances are dangerous and hazardous to health</p> <p>8.3 demonstrate how to maintain safe working and environmental practices throughout the duration of the work</p> <p>8.4 explain how to minimise risks to self and others when undertaking work activities</p> <p>8.5 state company work instruction, information and reporting systems and documentation</p> <p>8.6 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>8.7 demonstrate how to install cables and apparatus following engineering principles, processes and procedures</p> <p>8.8 recognise and report inaccurate and incorrect work instructions and documentation.</p>

Unit 318 Authorise actions on plant and apparatus in electricity power utilities environment

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have carried out all of the following actions on **at least two occasions**:

1. Issued authorisations for work.
2. Cancelled authorisations for work.
3. Transferred authorisations for work
4. Suspended authorisations for work.

Unit 319

Lead the work of teams and individuals to achieve work objectives

UAN:	L/600/6140
Level:	3
Credit value:	6
GLH:	36
Aim:	This unit is about leading and improving the effectiveness of team and individual work plans and providing opportunities for individuals to input and contribute to their own personal development. It involves devising work plans and providing individuals with feedback on their performance.

Learning outcome
The learner will: 1. be able to lead the work planning for teams and individuals.
Assessment criteria
The learner can: 1.1 provide team members with the opportunity of contributing to the organisation and planning of their work 1.2 devise realistic and achievable work plans 1.3 make sure that your work plans are consistent with the team's overall objectives 1.4 develop achievable work plans that reflect the skills and competencies of the individual team member and the team as a whole.

Learning outcome
The learner will: 2. be able to assess and improve the performance of work of teams and individuals.
Assessment criteria
The learner can: 2.1 secure a venue for an assessment that allows confidential discussions to take place between the team member and self 2.2 provides individual team members with the opportunity to contribute to the assessment of their own work and to have input into their future development 2.3 assess the performance of the team and individual team members based on their roles and responsibilities 2.4 assesses the performance of the team and its individual members against the quality of work they produce and their overall productivity.

Learning outcome
The learner will: 3. be able to provide feedback to team and individuals.
Assessment criteria
The learner can: 3.1 provide feedback to team members and individuals in a situation, form and manner most likely to maintain and improve performance 3.2 make sure feedback is clear and is based on an objective assessment of performance 3.3 make sure feedback recognises achievements and provides constructive suggestions and encouragement 3.4 give the team and individuals the opportunity to respond to feedback and recommend how they could improve performance.

Learning outcome
The learner will: 4. be able to use and communicate data and information.
Assessment criteria
The learner can: 4.1 communicates work plans to team members in a clear, concise and complete manner 4.2 makes sure the team members understand their individual and team roles and responsibilities for achieving the work plan 4.3 updates individual team members of changes to the work plan and to their individual responsibilities 4.4 communicates the purpose of the assessment, the benefits it provides to the individual, the team and company and the responsibilities of those involved in the assessment process 4.5 provide the team and individual team members with feedback on their performance.

Learning outcome
The learner will: 5. be able to demonstrate general knowledge and understanding about leading the work of teams and individuals.
Assessment criteria
The learner can: 5.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 5.2 state the company reporting lines and authorisation roles and responsibilities 5.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome
The learner will: 6. be able to demonstrate specific knowledge and understanding about leading the work of teams and individuals.
Assessment criteria
The learner can: 6.1 explain how to read and interpret procedures and information sources to make sure that tools and equipment are fit for purpose and safe to use 6.2 identify what personal protective equipment needs to be worn when undertaking work activities 6.3 explain what materials and substances are dangerous and hazardous to health 6.4 demonstrate how to maintain safe working and environmental practices throughout the duration of the work 6.5 explain how to minimise risks to self and others when undertaking work activities 6.6 state company work instruction, information and reporting systems and documentation 6.7 explain how to respond to the different types and categories of emergency situations that might occur 6.8 explain how to measure and provide feedback to individuals and teams on their performance against work plans 6.9 explain how to provide individuals with opportunities to input into and improve their personal performance 6.10 explain how to devise deliverable work plans that reflect the skills and competencies of the individual and work team.

Unit 319 Lead the work of teams and individuals to achieve work objectives

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have:

1. Developed a short term plan for an individual team member or a team
2. Developed a medium term plan for an individual team member or a team
3. Assessed the work of two individuals or teams
4. Given both positive and negative feedback
5. Given both verbal and written feedback
6. Given feedback in at least two of the following types of situation:
 - a) during normal day to day activities
 - b) when required to maintain motivation, morale and effectiveness
 - c) during formal appraisals
 - d) at team meetings and briefings
 - e) during confidential discussions of work.

Unit 320

Develop yourself in the work role

UAN:	A/600/5663
Level:	3
Credit value:	6
GLH:	36
Aim:	This unit is about playing an active role in reviewing and setting objectives to improve upon and maintain your personal performance. It involves the use of self assessment methods to establish and agree, with line management, how to achieve your development objectives.

Learning outcome
The learner will: 1. be able to develop yourself in the work roles.
Assessment criteria
The learner can: 1.1 assess your current levels of competence and establish where areas of personal development are needed 1.2 agree, with input of your supervisor, the period of time and resources you need to achieve the personal development objectives 1.3 devise and agree a personal development plan, including deadlines, with the support of your supervisor 1.4 implement, with the support of your supervisor, your personal development plan 1.5 review progress against meeting the objectives of your personal development plan and decide on future development actions 1.6 actively seek feedback and advice from your supervisor and work colleagues on how you can maintain and improve your level of performance.

Learning outcome

The learner will:

2. be able to demonstrate general knowledge and understanding about developing yourself in the work role.

Assessment criteria

The learner can:

- 2.1 state the main principles of Health and Safety and Environmental Legislation and Regulations
- 2.2 state the company reporting lines and authorisation roles and responsibilities
- 2.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

3. be able to demonstrate specific knowledge and understanding about developing yourself in the work role.

Assessment criteria

The learner can:

- 3.1 understand where to find training and development opportunities to support personal development plans and objectives
- 3.2 describe self assessment processes and techniques
- 3.3 know how to build personal development plans
- 3.4 know how to write personal development objectives.

Unit 321

Contribute to technical leadership

UAN:	Y/600/6142
Level:	3
Credit value:	6
GLH:	36
Aim:	This unit is about playing an active role in contributing to technical leadership. It involves anticipating and assessing potential technical problems before they occur and providing colleagues with guidance and advice on how to overcome them.

Learning outcome
The learner will: 1. be able to contribute to the evaluation and analysis of potential technical problems.
Assessment criteria
The learner can: 1.1 evaluate work plans, work methods and procedures for technical feasibility 1.2 conduct a risk assessment in accordance with health and safety regulations, environmental legislation and company procedures 1.3 anticipate potential problems and determine the solutions that need to be adopted to resolve them in accordance with work instructions and technical specifications 1.4 make sure that the solutions to be adopted to overcome anticipated and potential problems are implemented in a manner that meets health and safety regulations and work instructions.

Learning outcome
The learner will: 2. be able to communicate information.
Assessment criteria
The learner can: 2.1 provide colleagues with up-to-date technical information, advice to and guidance on the status and potential changes to work methods and activities 2.2 communicate methods to be adopted and implement to overcome and resolve the potential problem to designated and authorised personnel 2.3 report on the actions taken to resolve potential problems in accordance with company reporting systems and procedures.

Learning outcome
The learner will: 3. be able to resolve problems effectively and efficiently.
Assessment criteria
The learner can: 3.1 resolve potential and foreseen problem before they have a negative impact on the work problems and choose what action to take to deal with them 3.2 deal with problems within the limits of own personal responsibility.

Learning outcome
The learner will: 4. be able to demonstrate general knowledge and understanding about contributing to technical leadership.
Assessment criteria
The learner can: 4.1 state the main principles of Health and Safety and Environmental Legislation and Regulations 4.2 state the company reporting lines and authorisation roles and responsibilities 4.3 state the company policies and procedures that directly impact on the work to be undertaken.

Learning outcome

The learner will:

5. be able to demonstrate specific knowledge and understanding about contributing to technical leadership.

Assessment criteria

The learner can:

- 5.1 explain how to read and interpret procedures and information sources to make sure that tools and equipment are fit for purpose and safe to use
- 5.2 identify what personal protective equipment needs to be worn when undertaking work activities
- 5.3 explain what materials and substances are dangerous and hazardous to health
- 5.4 demonstrate how to maintain safe working and environmental practices throughout the duration of the work
- 5.5 explain how to minimise risks to self and others when undertaking work activities
- 5.6 state company work instruction, information and reporting systems and documentation
- 5.7 explain how to respond to the different types and categories of emergency situations that might occur
- 5.8 explain how to devise deliverable work plans that reflect the skills and competencies of the individual and the work team
- 5.9 describe planning methods and techniques
- 5.10 describe problem solving tools and techniques.

Unit 321 Contribute to technical leadership

Supporting information

Guidance

Scope and range: You need to provide evidence to show that you have **over a period of time:**

1. Analysed and provided effective solutions to three different problems
2. Assessed work methods and procedures and reported on their suitability and feasibility
3. Provided valid up to date information, advice and guidance to colleagues.



Appendix 1 Relationships to other qualifications

Literacy, language, numeracy and ICT skills development

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

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



Appendix 2 Sources of general information

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

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

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

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

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

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

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

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

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

Centre Guide – Delivering International Qualifications contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

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Useful contacts

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

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

City & Guilds Group

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

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City & Guilds

1 Giltspur Street
London EC1A 9DD
T +44 (0)844 543 0000
F +44 (0)20 7294 2413
www.cityandguilds.com

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