

Level 3 Diploma in Electrical Power Engineering - Power Plant Maintenance (Combined Electrical and Control & Instrumentation) (2339- 40)

November 2013 Version 1.0



Qualification at a glance

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|---------------------------------------|---|
| 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 - Power Plant Maintenance (Combined Electrical and Control & Instrumentation) | 2339-40 | 500/9778/7 |



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| Unit 326 | Inspect and maintain protection and tripping equipment | 60 |
| Unit 327 | Inspect and maintain transformers | 65 |
| Unit 328 | Inspect and maintain electrical actuators | 70 |
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| Unit 331 | Dismantle and assemble motors | 85 |
| Unit 332 | Dismantle and assemble electrical actuator | 90 |
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| Unit 334 | Remove and replace electrical actuators | 100 |
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|-------------------|---|------------|
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| Unit 337 | Inspect and maintain transmitters | 115 |
| Unit 338 | Inspect and maintain small bore pipework and valves | 120 |
| Unit 339 | Dismantle and assemble hydraulic and pneumatic actuators | 125 |
| Unit 340 | Dismantle and assemble analysers | 130 |
| Unit 341 | Remove and replace hydraulic and pneumatic actuators | 135 |
| Unit 342 | Remove and replace indicators | 140 |
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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 Power Plant Maintenance – Combined Mechanical and Electrical 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 - 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 – Power Plant Maintenance (Combined Electrical and Control & Instrumentation)**, learners must achieve **289** credits. **43** credits from group A; a **minimum of 40** credits from group B; **40** credits from group C; a **minimum of 20** credits from group D; a **minimum of 40** credits from group E; a **minimum of 40** credits from group F; **60** credits from group G and a **minimum of 6** credits from group H.

| Unit accreditation number | City & Guilds unit number | Unit title | Credit value |
|---------------------------|---------------------------|---|--------------|
| Group A | | | |
| A/601/5013 | Unit 301 | Complying with statutory regulations and organisational safety requirements | 5 |
| Y/601/8789 | Unit 302 | Minimise risks to life, property and the environment during power generation maintenance activities | 12 |
| D/600/5641 | Unit 304 | Fault location and diagnosing faults in power generation | 20 |
| T/600/5595 | Unit 305 | Work with other people | 6 |

| Group B | | | |
|----------------|----------|--|----|
| L/600/5568 | Unit 323 | Inspect and maintain low voltage switchgear | 20 |
| F/600/6135 | Unit 324 | Inspect and maintain high voltage switchgear | 20 |
| J/600/6136 | Unit 325 | Inspect and maintain motors | 20 |
| L/600/6137 | Unit 326 | Inspect and maintain protection and tripping equipment | 20 |
| R/600/6138 | Unit 327 | Inspect and maintain transformers | 20 |
| R/600/6141 | Unit 328 | Inspect and maintain electrical actuators | 20 |
| Group C | | | |
| J/600/6170 | Unit 329 | Dismantle and assemble low voltage switchgear | 20 |
| L/600/6171 | Unit 330 | Dismantle and assemble high voltage switchgear | 20 |
| Y/600/6173 | Unit 331 | Dismantle and assemble motors | 20 |
| K/600/6176 | Unit 332 | Dismantle and assemble electrical actuators | 20 |
| Group D | | | |
| M/600/6177 | Unit 333 | Remove and replace motors | 20 |
| T/600/6181 | Unit 334 | Remove and replace electrical actuators | 20 |
| Group E | | | |
| K/600/5352 | Unit 335 | Inspect and maintain pneumatic actuators | 20 |
| J/600/5441 | Unit 336 | Inspect and maintain analysers | 20 |
| D/600/6188 | Unit 337 | Inspect and maintain transmitters | 20 |
| H/600/6189 | Unit 338 | Inspect and maintain small bore pipework and valves | 20 |
| Group F | | | |
| A/600/6182 | Unit 341 | Remove and replace hydraulic and pneumatic actuators | 20 |
| F/600/6183 | Unit 342 | Remove and replace indicators | 20 |
| J/600/6184 | Unit 343 | Remove and replace recorders | 20 |
| L/600/6185 | Unit 344 | Remove and replace transmitters | 20 |
| R/600/6186 | Unit 345 | Remove and replace small bore pipework and valves | 20 |
| Group G | | | |
| Y/600/6190 | Unit 339 | Dismantle and assemble hydraulic and pneumatic actuators | 20 |
| D/600/6191 | Unit 340 | Dismantle and assemble analysers | 20 |
| Y/600/6187 | Unit 346 | Configure a range of different apparatus and equipment | 20 |

| Group H | | | |
|----------------|----------|---|---|
| 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

Any centre wishing to deliver these qualifications must have access to the appropriate plant, apparatus and equipment that will enable candidates 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.

Candidate entry requirements

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

Age restrictions

City & Guilds cannot accept any registrations for candidates 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

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

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

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

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



4 Assessment

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

Availability of units

The following units can also be obtained from the Register of Regulated Qualifications: <http://register.ofqual.gov.uk/Unit>

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
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria
- notes for guidance.

Unit 301

Complying with statutory regulations and organisational safety requirements

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|----------------------|---|
| UAN: | A/601/5013 |
| Level: | 2 |
| Credit value: | 5 |
| GLH: | 35 |
| Aim: | 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. |

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| 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 organisation, appropriate sources of information and guidance on health and safety issues, such as:<ul style="list-style-type: none">○ eye protection and personal protective equipment (PPE)○ COSHH regulations○ 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 |

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| 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 organisational safety rules, signs and hazard warnings • taking measures to protect others from any harm resulting from the work that they are carrying out |

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| 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 301

Complying with statutory regulations and organisational safety requirements

Supporting information

Guidance

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. 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.

Unit 302

Minimise risks to life, property and the environment during power generation maintenance activities

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|----------------------|---|
| UAN: | Y/601/8789 |
| 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. |

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| 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. |

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| Learning outcome |
| The learner will: 2. be able to determine, priorities 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. |

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| 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. |

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| 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. |

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| 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. |

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| Learning outcome |
| The learner will: 6. know and understand general knowledge about minimising risks to life, property and the environment during power generation 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. |

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| Learning outcome |
| <p>The learner will:</p> <p>7. know and understand general and specific knowledge in the context of the job role about minimising risks to life, property and the environment during power generation 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 worn when undertaken 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 what are the types and application of construction elements</p> <p>7.9 demonstrate lifting and handling equipment methods and techniques</p> <p>7.10 explain what are 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 302 Minimise risks to life, property and the environment during power generation maintenance activities

Supporting information

Scope and range

The learner will need to provide evidence to show that they have during their 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 maintenance work and should include examples of disposal of waste from work activities

On Three different work activities

Unit 304

Fault location and diagnosing faults in power generation

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|----------------------|---|
| UAN: | D/600/5641 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about locating and diagnosing faults on plant and apparatus in an electricity power utility environment. It involves the rigorous use and application of diagnostic tools and techniques to establish the root cause of a fault. It involves making recommendations on what actions need to be taken to rectify the fault. It also includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to locate and diagnose faults |
| 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 plan and carry out all work in line with company policy and work procedures. |

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| Learning outcome |
| The learner will: 2. be able to prepare to locate and diagnose faults |
| Assessment criteria |
| The learner can: 2.1 select and prepare the tools and fault diagnostic equipment in accordance with work instructions and equipment specification 2.2 inform parties directly and indirectly responsible for completing work activity of the intended work plan in accordance with work instructions and health and safety regulations 2.3 select and wear the required personal protective equipment to complete work activities in accordance with health and safety regulations. |

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| Learning outcome |
| The learner will: 3. be able to locate and diagnose faults |
| Assessment criteria |
| The learner can: 3.1 review and use all relevant information on the symptoms and problems associated with the fault 3.2 use diagnostic tools, techniques and procedures to locate the root cause of the fault in accordance with work instructions 3.3 locate the fault and recommend actions needed to effect a repair 3.4 determine the implications and impact the fault will have on other work and for safety considerations 3.5 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. |

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| 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. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about locating and diagnosing faults |
| 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about locating and diagnosing faults |
| Assessment criteria |
| The learner can: 8.1 explain the company procedures and processes for reporting problems with tools and equipment 8.2 explain the processes, 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 and maintain fault diagnosis tools and equipment 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 describe 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 identify what fault finding and diagnostic tools, techniques and procedures should be used for a given purpose and situation 8.12 explain how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 304 **Fault location and diagnosing faults in power generation**

Supporting information

Scope and range

The learner needs to provide evidence that they have:

1. Carried out the diagnosis of at least **four** different faults.
2. Used **four** of the following diagnostic techniques:
 - a) sight, sound, smell, touch
 - b) use of diagnostic test equipment
 - c) seeking advice and other opinions
 - d) non destructive testing
 - e) functional tests
 - f) oil, lubricant or gas sampling and testing.

Unit 305

Work with other people

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|----------------------|---|
| UAN: | T/600/5595 |
| Level: | 2 |
| Credit value: | 6 |
| GLH: | 36 |
| Aim: | This unit is about making an effective individual contribution to the work of a team or group. It involves taking an active role and where necessary a lead role in providing colleagues with guidance and advice when planning and completing work activities. It also involves using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to perform work with others |
| Assessment criteria |
| The learner can: 1.1 play an active role in determining and agreeing the tasks you and others need to undertake complete the work activity 1.2 agree what each of you will do and what work methods need to be used to complete tasks before starting the job in accordance with work instructions 1.3 finish the tasks you have been given on schedule and to the required quality standards and in a way that does not interfere with the work being undertaken by others 1.4 share ideas and experiences with colleagues on how improvements can be made to the way work is undertaken and to the quality of the finished product 1.5 collaborate and cooperate with others to find effective ways to deal with work problems 1.6 monitor the status and progress of others' work to establish if and where it interferes with and negatively impacts on your own 1.7 follow procedures and precautions to safeguard personnel, plant and the environment in accordance with health and safety regulations, environmental legislation and company procedures 1.8 conduct a risk assessment in accordance with health and safety and environmental legislation. |

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| Learning outcome |
| The learner will: 2. be able to take a lead role in joint activities |
| Assessment criteria |
| The learner can: 2.1 develop and communication of the work plan 2.2 make sure the work plan specifies the resources required, the objectives to be met, the allocation of responsibilities and the timescale for each aspect of the work 2.3 use and follow the work plan to monitor the progress of the work being undertaken 2.4 follow procedures and precautions designed to safeguard personnel, plant and the environment in accordance with health and safety regulations, environmental legislation and company procedures. |

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| Learning outcome |
| The learner will: 3. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 3.1 communicate ideas and information in a clear and concise way 3.2 seek feedback to make sure that ideas, data and information have been communicated and understood by others 3.3 make sure that everyone contributing to the work activity complies with work instructions and quality assurance standards and requirements 3.4 inform the team of the work plan and the work activities they are personally responsible for completing 3.5 communicate the status and progress of the work being undertaken in accordance with company reporting systems and procedures. |

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| Learning outcome |
| The learner will: 4. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 4.1 report problems outside the limits of personal responsibility to designated personnel 4.2 resolve problems with working relationships 4.3 refer problems with working relationships that cannot be resolve by yourself to appropriate personnel. |

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| Learning outcome |
| The learner will: 5. know and understand how to use general knowledge about working with others |
| 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. |

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| Learning outcome |
| The learner will: 6. know and understand how to use industry and context specific knowledge about working with others |
| Assessment criteria |
| The learner can: 6.1 demonstrate 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 worn when undertaken work activities 6.3 identify what materials and substances are dangerous and hazardous to health 6.4 know how to maintain safe working and environmental practices throughout the duration of the work 6.5 know 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 know how to respond to the different types and categories of emergency situations that might occur 6.8 know how to devise deliverable work plans that reflect the skills and competencies of the individual and the work team 6.9 discuss planning methods and techniques. 6.10 describe problem solving tools and techniques 6.11 know how to recognise and report incorrect and inaccurate work instructions and supporting documentation in accordance with company. |

Unit 305 Work with other people

Supporting information

Scope and range

The learner needs to provide evidence to show that they have worked with other people under all the following situations:

1. Working with one other person.
2. Working as a member of a team.
3. Taking a lead role in joint activities.

Unit 318

Authorise actions on plant and apparatus in electricity power utilities environment

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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

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

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|----------------------|---|
| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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. |

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| 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

Scope and range

The learner needs to provide evidence to show that they 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

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|----------------------|--|
| UAN: | A/600/5663 |
| Level: | 2 |
| 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. |

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| 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. |

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| 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. |

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| 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 320 Develop yourself in the work role

Supporting information

Scope and range

The learner needs to provide evidence to show that they have:

1. Played an active role in reviewing and developing yourself in the work role, whilst demonstrating that you understand the techniques and processes involved.
2. Actively sought feedback and guidance from sources such as: line management, personnel or training specialists, colleagues in your work team.
3. Participated in work role development activities by providing records of: courses, competence assessment, personal development plans, and certificates.

Unit 321

Contribute to technical leadership

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| 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 in the electricity power utilities environment. It involves anticipating and assessing potential technical problems before they occur and providing colleagues with guidance and advice on how to overcome them. |

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| Learning outcome |
| The learner will: 1. be able to contribute to 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. |

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| 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 method 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 problem in accordance with company reporting systems and procedures. |

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| 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 problems 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. |

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| Learning outcome |
| The learner will: 4. know and understand general knowledge 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. know and understand how to use industry and context specific knowledge 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 worn when undertaken 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

Scope and range

The learner needs to provide evidence to show that they 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

Unit 323

Inspect and maintain low voltage switchgear

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|----------------------|--|
| UAN: | L/600/5568 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain low voltage switchgear |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain low voltage switchgear |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 low voltage switchgear to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain low voltage switchgear |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain low voltage switchgear in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining low voltage 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. |

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| Learning outcome |
| The learner will: 8. know and understand how to use industry and context specific knowledge about inspecting and maintaining low voltage switchgear |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 323 Inspect and maintain low voltage switchgear

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of :
 - Low voltage switchgear: Would typically be stand alone or part of a switchboard and would control the start up and shut down of auxiliary plant and equipment.

On 2 occasions.

Unit 324

Inspect and maintain high voltage switchgear

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|----------------------|--|
| UAN: | F/600/6135 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain high voltage switchgear |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain high voltage switchgear |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 high voltage switchgear to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain high voltage switchgear |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain high voltage switchgear in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining high voltage 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining high voltage switchgear |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 324 Inspect and maintain high voltage switchgear

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of :
 - High voltage switchgear: Would typically be stand alone or part of a switchboard, be housed in a cubicle and be trolley or of racking construction and would control the start up and shut down of main plant and equipment.

On 2 occasions.

Unit 325

Inspect and maintain motors

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|----------------------|--|
| UAN: | J/600/6136 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain motors |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain motors |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 motors to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain motors |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain motors in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

| |
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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining motors |
| 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining motors |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 325 Inspect and maintain motors

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of :
 - Motors: AC/DC low or high voltage.

On 3 occasions.

Unit 326

Inspect and maintain protection and tripping equipment

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|----------------------|--|
| UAN: | L/600/6137 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain protection and tripping equipment |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain protection and tripping equipment |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 protection and tripping equipment to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain protection and tripping equipment |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain protection and tripping equipment in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining protection and tripping 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. Know and understand how to use industry and context specific knowledge about inspecting and maintaining protection and tripping equipment

Assessment criteria

The learner can:

- 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems
- 8.10 state company work instruction, information and reporting systems and documentation
- 8.11 explain how to respond to the different types and categories of emergency situations that might occur
- 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures
- 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems
- 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation.

Unit 326 Inspect and maintain protection and tripping equipment

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of :
 - **3 types** of protection and tripping equipment.

Unit 327

Inspect and maintain transformers

| | |
|----------------------|--|
| UAN: | R/600/6138 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain transformers |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain transformers |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 transformers to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain transformers |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain transformers in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining transformers |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 327 Inspect and maintain transformers

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of :
 - Transformers: Stand alone, air cooled or oil cooled and within their own physical compound or switchroom.

On 2 occasions.

Unit 328

Inspect and maintain electrical actuators

| | |
|----------------------|--|
| UAN: | R/600/6141 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain electrical actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain electrical actuators |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 electrical actuators to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain electrical actuators |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain electrical actuators in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining electrical actuators |
| 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining electrical actuators |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 328 Inspect and maintain electrical actuators

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. Carried out the inspection and maintenance of:
 - Electrical actuators.

3 types of actuator.

Unit 329

Dismantle and assemble low voltage switchgear

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|----------------------|--|
| UAN: | Y/600/6190 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble low voltage switchgear |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble low voltage switchgear |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle low voltage switchgear |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble low voltage switchgear |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling low voltage switchgear |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about dismantling and assembling low voltage switchgear |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 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 9.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaking work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 state company work instruction, information and reporting systems and documentation 9.10 explain how to respond to the different types and categories of emergency situations that might occur 9.11 explain plant and apparatus dismantling and assembly principles, methods, processes and procedures 9.12 explain what handling techniques and equipment to adopt and use when dismantling and assembling plant and apparatus 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 329 Dismantle and assemble low voltage switchgear

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the dismantling and assembly as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - Low voltage switchgear: Would typically be stand alone or part of a switchboard and would control the start up and shut down of auxiliary plant and equipment.

On 2 occasions

Unit 330

Dismantle and assemble high voltage switchgear

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|----------------------|--|
| UAN: | L/600/6171 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble high voltage switchgear |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble high voltage switchgear |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle high voltage switchgear |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble high voltage switchgear |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling high voltage switchgear |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about dismantling and assembling high voltage switchgear |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 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 9.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaking work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 state company work instruction, information and reporting systems and documentation 9.10 explain how to respond to the different types and categories of emergency situations that might occur 9.11 explain plant and apparatus dismantling and assembly principles, methods, processes and procedures 9.12 explain what handling techniques and equipment to adopt and use when dismantling and assembling plant and apparatus 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 330 Dismantle and assemble high voltage switchgear

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the dismantling and assembly as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - High voltage switchgear: Would typically be stand alone or part of a switchboard, be housed in a cubicle and be trolley or of racking construction and would control the start up and shut down of main plant and equipment.

On 2 occasions

Unit 331

Dismantle and assemble motors

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|----------------------|--|
| UAN: | Y/600/6173 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble motors |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble motors |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle motors |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble motors |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling motors |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about dismantling and assembling motors |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 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 9.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaking work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 state company work instruction, information and reporting systems and documentation 9.10 explain how to respond to the different types and categories of emergency situations that might occur 9.11 explain plant and apparatus dismantling and assembly principles, methods, processes and procedures 9.12 explain what handling techniques and equipment to adopt and use when dismantling and assembling plant and apparatus 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 331 Dismantle and assemble motors

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the dismantling and assembly as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - Motors: AC/DC low or high voltage.

On 3 occasions

Unit 332

Dismantle and assemble electrical actuator

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| UAN: | K/600/6176 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble electrical actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble electrical actuators |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle electrical actuators |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble electrical actuators |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling electrical actuators |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about dismantling and assembling electrical actuators |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 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 9.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaking work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 state company work instruction, information and reporting systems and documentation 9.10 explain how to respond to the different types and categories of emergency situations that might occur 9.11 explain plant and apparatus dismantling and assembly principles, methods, processes and procedures 9.12 explain what handling techniques and equipment to adopt and use when dismantling and assembling plant and apparatus 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 332 Dismantle and assemble electrical actuator

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the dismantling and assembly as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - Electrical actuators.

3 types of actuator.

Unit 333

Remove and replace motors

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| UAN: | M/600/6177 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace motors |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace motors |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove motors |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace motors |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing motors |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing motors |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 333 Remove and replace motors

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the removal and replacement as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Motors: AC/DC low or high voltage.

On 3 occasions

Unit 334

Remove and replace electrical actuators

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| UAN: | T/600/6181 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace electrical actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace electrical actuators |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove electrical actuators |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace electrical actuators |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing electrical actuators |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing electrical actuators |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 334 Remove and replace electrical actuators

Supporting information

Scope and range

1. You must provide evidence to show that you have carried out the removal and replacement as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Electrical actuators.

3 types of actuator.

Unit 335

Inspect and maintain hydraulic and pneumatic actuators

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| UAN: | K/600/5352 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain hydraulic and pneumatic actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 hydraulic and pneumatic actuators to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain hydraulic and pneumatic actuators in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining hydraulic and pneumatic actuators |
| 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. |

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| Learning outcome |
| <p>The learner will:</p> <p>8. know and understand how to use industry and context specific knowledge about inspecting and maintaining hydraulic and pneumatic actuators</p> |
| Assessment criteria |
| <p>The learner can:</p> <p>8.1 explain the company procedures and processes for reporting problems with tools and equipment</p> <p>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</p> <p>8.3 explain the processes and procedures to be followed and complied with when inspecting and preparing tools and equipment prior to use</p> <p>8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks</p> <p>8.5 identify what personal protective equipment needs to worn when undertaking work activities</p> <p>8.6 identify what materials and substances are dangerous and hazardous to health</p> <p>8.7 explain how to maintain safe working and environmental practices throughout the duration of the work</p> <p>8.8 explain how to minimise risks to self and others when undertaking work activities</p> <p>8.9 explain the procedures and documentation used for reporting problems</p> <p>8.10 state company work instruction, information and reporting systems and documentation</p> <p>8.11 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures</p> <p>8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems</p> <p>8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation</p> <p>8.15 identify inspection processes and equipment to use for a specific and given purpose.</p> |

Unit 335 Inspect and maintain hydraulic and pneumatic actuators

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the inspection and maintenance of :
 - Hydraulic and Pneumatic Actuators.

3 types of actuator

Unit 336

Inspect and maintain analysers

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| UAN: | J/600/5441 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain analysers |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain analysers |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 analysers to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain analysers |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain analysers in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining analysers |
| 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. |

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| Learning outcome |
| <p>The learner will:</p> <p>8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining analysers</p> |
| Assessment criteria |
| <p>The learner can:</p> <p>8.1 explain the company procedures and processes for reporting problems with tools and equipment</p> <p>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</p> <p>8.3 explain the processes and procedures to be followed and complied with when inspecting and preparing tools and equipment prior to use</p> <p>8.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks</p> <p>8.5 identify what personal protective equipment needs to worn when undertaking work activities</p> <p>8.6 identify what materials and substances are dangerous and hazardous to health</p> <p>8.7 explain how to maintain safe working and environmental practices throughout the duration of the work</p> <p>8.8 explain how to minimise risks to self and others when undertaking work activities</p> <p>8.9 explain the procedures and documentation used for reporting problems</p> <p>8.10 state company work instruction, information and reporting systems and documentation</p> <p>8.11 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures</p> <p>8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems</p> <p>8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation</p> <p>8.15 identify inspection processes and equipment to use for a specific and given purpose.</p> |

Unit 336 Inspect and maintain analysers

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the inspection and maintenance of :
 - Analysers: Physical, Chemical or Optical and can be used for water, gas or dust.

3 types of analyser

Unit 337

Inspect and maintain transmitters

| | |
|----------------------|--|
| UAN: | D/600/6188 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain transmitters |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain transmitters |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 transmitters to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain transmitters |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain transmitters in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining transmitters |
| 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining transmitters |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation 8.15 identify inspection processes and equipment to use for a specific and given purpose. |

Unit 337 Inspect and maintain transmitters

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the inspection and maintenance of :
 - Transmitters: Electronic or Pneumatic and can be used for temperature, pressure, level, flow or position.

4 types of transmitter

Unit 338

Inspect and maintain small bore pipework and valves

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|----------------------|---|
| UAN: | H/600/6189 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about performing inspection and maintenance work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems |

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| Learning outcome |
| The learner will: 1. be able to plan to inspect and maintain small bore pipework and valves |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to inspect and maintain small bore pipework and valves |
| Assessment criteria |
| The learner can: 2.1 carry out pre use checks on tools and equipment to be used to complete the inspection and 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 small bore pipework and valves to be inspected and maintained in accordance with work instructions. |

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| Learning outcome |
| The learner will: 3. be able to inspect and maintain small bore pipework and valves |
| Assessment criteria |
| The learner can: 3.1 inspect and maintain small bore pipework and valves in accordance with equipment specification and inspection and maintenance procedures and work instructions 3.2 determine the defects and measure variations in the performance of system against its specification and performance criteria 3.3 record defects and determine variations in the performance of the system against its operating specification and performance criteria 3.4 inspect and adjust finished product for compliance with work instructions and operating specifications 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. |

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| 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 consistent with good housekeeping practice. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about inspecting and maintaining small bore pipework and valves |
| 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about inspecting and maintaining small bore pipework and valves |
| Assessment criteria |
| The learner can: 8.1 explain 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 the processes and procedures 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 undertaking 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 explain the procedures and documentation used for reporting problems 8.10 state company work instruction, information and reporting systems and documentation 8.11 explain how to respond to the different types and categories of emergency situations that might occur 8.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures 8.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems 8.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation 8.15 identify inspection processes and equipment to use for a specific and given purpose. |

Unit 338 Inspect and maintain small bore pipework and valves

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the inspection and maintenance of:
 - Valves and pipework: Those associated with transmitters, analysers, controllers and actuators, microbore to 50 mm diameter.

3 occasions

Unit 339

Dismantle and assemble hydraulic and pneumatic actuators

| | |
|----------------------|--|
| UAN: | Y/600/6190 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble hydraulic and pneumatic actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble hydraulic and pneumatic actuators |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 dispose of waste materials and hazardous substances 5.3 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| <p>The learner will:</p> <p>9. Know and understand how to use industry and context specific knowledge about dismantling and assembling hydraulic and pneumatic actuators</p> |
| Assessment criteria |
| <p>The learner can:</p> <p>9.1 explain the company procedures and processes for reporting problems with tools and equipment</p> <p>9.2 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</p> <p>9.3 explain the processes and procedures to be followed and complied with when inspecting and preparing tools and equipment prior to use</p> <p>9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks</p> <p>9.5 identify what personal protective equipment needs to worn when undertaking work activities</p> <p>9.6 identify what materials and substances are dangerous and hazardous to health</p> <p>9.7 explain how to maintain safe working and environmental practices throughout the duration of the work</p> <p>9.8 explain how to minimise risks to self and others when undertaking work activities</p> <p>9.9 explain the procedures and documentation used for reporting problems</p> <p>9.10 state company work instruction, information and reporting systems and documentation</p> <p>9.11 explain how to respond to the different types and categories of emergency situations that might occur</p> <p>9.12 explain how to maintain and inspect plant and apparatus using specified assemble principles, methods, processes and procedures</p> <p>9.13 explain what handling techniques and equipment to adopt and use when inspecting and maintaining systems</p> <p>9.14 identify how to recognise and report inaccurate and incorrect work instructions and documentation</p> <p>9.15 identify inspection processes and equipment to use for a specific and given purpose.</p> |

Unit 339 Dismantle and assemble hydraulic and pneumatic actuators

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - Hydraulic and Pneumatic Actuators.

3 types of actuator

Unit 340

Dismantle and assemble analysers

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|----------------------|--|
| UAN: | D/600/6191 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out dismantling and assembly work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to dismantle and assemble analysers |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to dismantle and assemble analysers |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be dismantled and assembled in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to dismantle analysers |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before the dismantling of plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and when it is being dismantled 3.3 dismantle the plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to assemble analysers |
| Assessment criteria |
| The learner can: 4.1 position, assemble and secure plant and apparatus in accordance with equipment specification and procedures 4.2 check final assembly for compliance with work instruction and work specification 4.3 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about dismantling and assembling analysers |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about dismantling and assembling analysers |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 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 9.3 explain what processes and procedures need to be followed and complied with when inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaking work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 state company work instruction, information and reporting systems and documentation 9.10 explain how to respond to the different types and categories of emergency situations that might occur 9.11 explain plant and apparatus dismantling and assembly principles, methods, processes and procedures 9.12 explain what handling techniques and equipment to adopt and use when dismantling and assembling plant and apparatus 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation. |

Unit 340 Dismantle and assemble analysers

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the dismantling and assembly of :
 - Analysers: Physical, Chemical or Optical and can be used for water, gas or dust.

3 types of analyser

Unit 341

Remove and replace hydraulic and pneumatic actuators

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|----------------------|---|
| UAN: | A/600/6182 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace hydraulic and pneumatic actuators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace hydraulic and pneumatic actuators |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing hydraulic and pneumatic actuators |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 341 Remove and replace hydraulic and pneumatic actuators

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Hydraulic and Pneumatic Actuators.

3 types of actuator

Unit 342

Remove and replace indicators

| | |
|----------------------|---|
| UAN: | F/600/6183 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace indicators |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace indicators |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove indicators |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace indicators |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing indicators |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing indicators |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 342 Remove and replace indicators

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Indicators: Typical examples would include; electronic, mechanical, electrical coil, bar graph or LCD display indicators, bourbon tube, diaphragm and bimetallic stand alone gauges.

4 types of indicator

| | |
|----------------------|---|
| UAN: | J/600/6184 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace recorders |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace recorders |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove recorders |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace recorders |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing recorders |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing recorders |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 343 Remove and replace recorders

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Recorders: Typical examples would include; electronic tape or computer storage devices, chart and ink based recorders.

3 types of recorder

Unit 344

Remove and replace transmitters

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|----------------------|---|
| UAN: | L/600/6185 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace transmitters |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace transmitters |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove transmitters |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace transmitters |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing transmitters |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing transmitters |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 344 Remove and replace transmitters

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Transmitters: Electronic or Pneumatic and can be used for temperature, pressure, level, flow or position.

4 types of transmitter

Unit 345

Remove and replace small bore pipework valves

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|----------------------|---|
| UAN: | R/600/6186 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about carrying out removal and replacement work on plant and apparatus in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to remove and replace small bore pipework and valves |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to remove and replace small bore pipework and valves |
| 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 to complete work activities in accordance with health and safety regulations 2.3 locate and establish the plant and equipment to be removed and replaced in accordance with authorisation procedures 2.4 apply with and follow control measures in line with safe control systems requirements 2.5 obtain the plant and apparatus to be replaced, making sure its specification meets its intended use and purpose. |

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| Learning outcome |
| The learner will: 3. be able to remove small bore pipework and valves |
| Assessment criteria |
| The learner can: 3.1 make sure that stored energy is released before work to remove plant and apparatus commences in accordance work instructions 3.2 take precautions to prevent damage to plant and apparatus before and during removal 3.3 remove plant and apparatus in accordance with equipment specification and work instructions 3.4 check that the plant and apparatus has been fully dismantled in accordance with work instructions 3.5 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. |

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| Learning outcome |
| The learner will: 4. be able to replace small bore pipework and valves |
| Assessment criteria |
| The learner can: 4.1 replace plant and apparatus in accordance with work instructions 4.2 take precautions to prevent damage to plant and apparatus during its replacement 4.3 set and adjust plant and apparatus making sure that the finished work meets operational and performance requirements 4.4 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. |

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| Learning outcome |
| The learner will: 5. be able to restore and reinstate work location |
| Assessment criteria |
| The learner can: 5.1 store tools and equipment on completion of the work activity 5.2 store re-usable plant and apparatus in designated areas 5.3 dispose of waste materials and hazardous substances 5.4 leave the work area in a condition which is consistent with good housekeeping practice. |

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| Learning outcome |
| The learner will: 6. be able to use and communicate data and information |
| Assessment criteria |
| The learner can: 6.1 report unavailable or defective tools, equipment and resources 6.2 read and interpret company work instructions and supporting documentation 6.3 maintain documentation and report findings of the fault diagnosis work in accordance with organisational requirements. |

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| Learning outcome |
| The learner will: 7. be able to resolve problems effectively and efficiently |
| Assessment criteria |
| The learner can: 7.1 deal with problems within the limits of own job role responsibility 7.2 report problems outside job role responsibility to designated personnel. |

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| Learning outcome |
| The learner will: 8. know and understand general knowledge about removing and replacing small bore pipework and valves |
| Assessment criteria |
| The learner can: 8.1 state the main principles of health and safety and environmental legislation and regulations 8.2 state the company reporting lines and authorisation roles and responsibilities 8.3 state the company policies and procedures that directly impact on the work to be undertaken. |

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| Learning outcome |
| The learner will: 9. Know and understand how to use industry and context specific knowledge about removing and replacing small bore pipework and valves |
| Assessment criteria |
| The learner can: 9.1 explain the company procedures and processes for reporting problems with tools and equipment 9.2 demonstrate how to read and interpret the procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use 9.3 explain processes and procedures to be followed for inspecting and preparing tools and equipment prior to use 9.4 read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks 9.5 identify what personal protective equipment needs to worn when undertaken work activities 9.6 identify what materials and substances are dangerous and hazardous to health 9.7 explain how to maintain safe working and environmental practices throughout the duration of the work 9.8 explain how to minimise risks to self and others when undertaking work activities 9.9 explain the procedures and documentation used for reporting problems 9.10 state company work instruction, information and reporting systems and documentation 9.11 explain how to respond to the different types and categories of emergency situations that might occur 9.12 explain how to replace plant and apparatus using specified principles, methods, processes and procedures 9.13 identify how to recognise and report inaccurate and incorrect work instructions and documentation 9.14 understand what handling techniques and equipment to adopt and use when removing and replacing plant and apparatus. |

Unit 345 Remove and replace small bore pipework and valves

Supporting information

Scope and range

1. The learner must provide evidence to show that they have carried out the inspection and maintenance as part of routine maintenance work and/or during the course of problem investigation.
2. The learner needs to provide evidence to show that they have carried out the removal and replacement of:
 - Valves and pipework: Those associated with transmitters, analysers, controllers and actuators, from microbore to 50 mm diameter.

On 3 occasions

Unit 346

Configure a range of different apparatus and equipment

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|----------------------|--|
| UAN: | Y/600/6187 |
| Level: | 3 |
| Credit value: | 20 |
| GLH: | 120 |
| Aim: | This unit is about configuring equipment in an electricity power utilities environment. It includes the processes and procedures that need to be rigorously and methodically followed to make sure that the finished work meets the quality assurance and operating specifications set by the organisation. It also involves using a range of tools and equipment that are fit for purpose. It includes using and communicating data and information and resolving problems. |

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| Learning outcome |
| The learner will: 1. be able to plan to configure equipment |
| 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. |

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| Learning outcome |
| The learner will: 2. be able to prepare to configure equipment |
| 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 to complete 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 2.4 apply with and follow control measures in line with safe control systems requirements. |

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| Learning outcome |
| The learner will: 3. be able to configure equipment |
| Assessment criteria |
| The learner can: 3.1 follow prescribed setting-up procedures for the equipment to be configured 3.2 configure equipment in accordance with work instructions and operating specifications 3.3 check the configured equipment meets its specified operating parameters and performance requirements 3.4 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. |

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| 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. |

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| 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 findings of the fault diagnosis work in accordance with organisational requirements. |

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| 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. |

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| Learning outcome |
| The learner will: 7. know and understand general knowledge about configuring a range of different apparatus 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. |

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| Learning outcome |
| The learner will: 8. Know and understand how to use industry and context specific knowledge about configuring a range of different apparatus and equipment |
| 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 state 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 346 Configure a range of different apparatus and equipment

Supporting information

Scope and range

The learner will need to provide evidence to show that they have:

1. Configured/calibrated equipment as part of routine maintenance work and/or during the course of problem investigation.
2. The equipment can be configured/calibrated whilst in line with other generation plant or associated equipment or when isolated/stand alone.
3. Configured/calibrated equipment **in an isolated/stand alone situation and when in line** with other associated equipment.
4. Carried out the configuration/calibration of **four** of the following types of equipment:
 - Controllers and PLC's: Controllers can be pneumatic or electronic.
2 controllers and 2 PLC's
 - Analysers: Physical, Chemical or Optical and can be used for water, gas or dust.
3 types of analyser
 - Indicators: Typical examples would include; electronic, mechanical, electrical coil, bar graph or LCD display indicators, bourbon tube, diaphragm and bimetallic stand alone gauges.
4 types of indicator
 - Recorders: Typical examples would include; electronic tape or computer storage devices, chart and ink based recorders.



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.

City & Guilds
Believe you can



www.cityandguilds.com

Useful contacts

UK learners

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Centres

Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results

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