

Certificate and Advanced Certificate in Electrical Power Engineering - Distribution at SCQF Level 5 and 6 (2343)

Qualification handbook for centres



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Qualification title	Number	SQA ref.
Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 5	2343-51	R227 04
Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 5	2343-52	R228 04
Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 5	2343-53	R229 04
Advanced Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 6	2343-31	R066 04
Advanced Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 6	2343-32	R068 04
Advanced Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 6	2343-33	R070 04

Version and date	Change detail
2.1 August 2012	Updated POS, SQA ref, last registration and certification dates and structures for 51, 52 and 53.
2.2 February 2016	Updated City & Guilds group information
2.3 July 2016	POS 52 Rules of Combination Updated

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1 Introduction to the qualifications

This document contains the information that centres need to offer the following qualifications:

Qualification titles and levels	City & Guilds qualification numbers	SQA accreditation numbers	Last registration date
Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 5	2343-51	R227 04	Please refer to the Walled Garden
Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 5	2343-52	R228 04	Please refer to the Walled Garden
Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 5	2343-53	R229 04	Please refer to the Walled Garden
Advanced Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 6	2343-31	R066 04	Please refer to the Walled Garden
Advanced Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 6	2343-32	R068 04	Please refer to the Walled Garden
Advanced Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 6	2343-33	R070 04	Please refer to the Walled Garden

City & Guilds is proud to introduce the accredited and SCQF credit rated qualifications; Electrical power engineering competency qualifications which have been developed in close conjunction with power sector employers and the sector skills council Energy & Utility Skills.

These new qualifications, which replace the incumbent Electricity SVQs, have been designed to allow power sector employees the opportunity to accumulate the evidence of skills, knowledge and understanding from the work place necessary to demonstrate whole job competency within their role against the industry standards / units of accreditation.

There are four sub-sectors within the City & Guilds electrical power engineering structure: (i) distribution (ii) metering (iii) transmission and (iv) generation. This handbook relates solely to the suite of qualifications for the distribution sub-sector (the other sub-sectors can be found on the City and Guilds website).

The distribution sub-sector is made up of SCQF level 5 and 6 qualifications covering job roles related to substation plant, underground cables and overhead lines. All of the units within the distribution qualifications have been mapped to their relevant national occupational standard and successful

Certificate and Advanced Certificate in Electrical Power Engineering – Distribution at SCQF Level 5 and 6 (2343) Handbook

completion of the units and/or qualifications demonstrates competence as determined by power sector employers.

These qualifications are the competency requirements of the appropriate apprenticeship frameworks for the power sector.

1.1 Qualification structure

Below is a summary of the minimum requirements for each qualification. For the full qualification structure and unit content, please consult each qualification's associated unit document.

1. To achieve the **Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 5**, learners must achieve a minimum of 19 credits from the mandatory units and a minimum of 34 credits from the optional units available.
2. To achieve the **Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 5**, learners must achieve a minimum of 15 credits from the mandatory units and a minimum of 22 credits from the optional units available.
3. To achieve the **Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 5**, learners must achieve a minimum of 19 credits from the mandatory units and a minimum of 34 credits from the optional units available.
4. To achieve the **Advanced Certificate in Electrical Power Engineering – Substation Plant at SCQF Level 6**, learners must achieve a minimum of 42 credits from the mandatory units and a minimum of 20 credits from the optional units available.
5. To achieve the **Advanced Certificate in Electrical Power Engineering – Underground Cables at SCQF Level 6**, learners must achieve a minimum of 42 credits from the mandatory units and a minimum of 24 credits from the optional units available.
6. To achieve the **Advanced Certificate in Electrical Power Engineering – Overhead Lines at SCQF Level 6**, learners must achieve a minimum of 42 credits from the mandatory units and a minimum of 20 credits from the optional units available.

There is also a top-up route (2343-90) that allows candidates to achieve individual units outside of the full qualifications. The full qualification is still achievable through appropriate rules of combination with this route.

1.2 Opportunities for progression

On completion of the level 5 qualifications candidates may be able to progress onto level 6 and thereafter onto appropriate supervisory / management qualifications.

1.3 Qualification support materials

City & Guilds also provides the following publications and resources specifically for these qualifications:

Description	How to access
Candidate Evidence Workbooks	www.cityandguilds.com
Unit handbooks for each qualification	www.cityandguilds.com
Quick guide	www.cityandguilds.com
Questions & Answers	www.cityandguilds.com
Generic recording books	www.cityandguilds.com

2 Centre requirements

This section outlines the approval processes for Centres to offer Electrical Power Engineering qualifications and any resources that Centres will need in place to offer the qualifications including qualification-specific requirements for Centre staff.

Centres already offering City & Guilds qualifications in this subject area

Active centres approved to offer the qualifications Level 5 and/or Level 6 Electricity System Technology Engineering (2353-42/43) may apply for approval for the entire suite of the Level 5 and 6 2343 distribution qualifications using the **fast track approval form**, available from the **2343 and 2353 web pages at www.cityandguilds.com**

Where any details at the centre have changed (for example assessor and internal verifier details) these must be notified to the relevant regional office.

Fast track approval is available for 12 months from the launch of the qualification. After this time, the qualification is subject to the **standard** Qualification Approval Process. It is the centre's responsibility to check that fast track approval is still current at the time of application.

2.1 Resource requirements

Physical resources and site agreements

Any centre wishing to deliver these qualifications must have access to the appropriate plant, apparatus and equipment that will enable 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 external verifier will confirm that centres have the required physical resources with which to deliver the diplomas.

Human resources

In line with the sector skills council Energy & Utility's assessment strategy, all **assessors, internal verifiers** and **external verifiers** 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
- Have - or working towards being qualified - Assessor or Verifier units of competence (A or V units or D units) or TQFE or TQSE for assessment or verification in Scotland
- 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 verifier, but must never internally verify their own assessments.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and verification, and that it takes account of any national or legislative developments.

2.2 Candidate entry requirements

There are no restrictions on entry to the diplomas, although it is expected that candidates will be already engaged within the industry. Candidates should not be registered if they hold from City & Guilds or another awarding body a qualification of a similar level and within the same content area as the relevant diplomas.

Age restrictions

These Electrical Power Engineering qualifications are **not** approved for use by candidates under the age of 16, and City & Guilds cannot accept any registrations for candidates in this age group.

3 Units

Availability of units

All of the units for the diplomas can be found on the 2343 webpage on the City & Guilds website www.cityandguilds.com under their respective qualification titles.

4 Assessment

4.1 Summary of assessment methods

This section is broken down into the following assessment sub-sections:

- (i) General – provides the overall approach to assessment in the diplomas
- (ii) Work-place assessment – description of what is required of the assessment
- (iii) Simulation – the criteria and minimum requirements pertaining to this form of assessment
- (iv) Realistic working environments – the activities and criteria relating to this form of assessment
- (v) Witness testimony – sector skills council’s guidance on this form a evidence
- (vi) Knowledge & understanding – guidance on the approach to assessing these criteria

(i) General

These new SCQF qualifications are accredited as competence-based qualifications and require the overwhelming majority of evidence to be collected from the workplace. The assessment methods therefore have not deviated from the previous SVQ, where evidence to meet the requirements of the standards was gathered by the candidate from the work-place and compiled into a portfolio of evidence, which was validated by the approved assessor and internal verifier and subject to City & Guilds’ external verification.

The diplomas have been designed to offer choices and progression which recognise candidate competence in working within the three main occupational contexts overhead line work, underground cable work and sub-station work. There is significant inter-location variation in the specific items of plant, apparatus and equipment with which candidates must interact within each of these contexts. Both candidates and assessors therefore must have a detailed knowledge of the specific operational characteristics of the plant, apparatus and equipment with which they work in order to be able to demonstrate, through its use, their achievement of occupational competence as demanded by the units of assessment.

Details of the scope and range of the unit are provided with each unit. In addition to visits from external verifiers, all centres will be required to submit details of assessment planning arrangements and assessment recording forms and systems - these details must include the planned use and design of simulations that meet the requirements on this type of assessment provided below. The external verifier will determine whether or not these are of an acceptable rigour to ensure satisfactory implementation and recording of assessment. The visits to a centre by an external verifier will be planned in advance.

The following approaches to external quality control are not mandatory as part of the assessment strategy:

- Use of independent assessors (moving the candidate): The requirement for workplace evidence means that it would be inappropriate and logistically uneconomic to make use of an assessment system in which candidates were required to attend a different location or assessment centre.
- Use of independent assessors (moving the assessor): Candidates for the Electrical Power Engineering diplomas will typically be in low numbers per centre and widely scattered across the UK. Under these circumstances, the mandatory use of peripatetic assessors would be very costly and offer little added value.
- Use of independent assessment methods (open written response assessment): Due to the variation of plant, apparatus and equipment this type of assessment would remove the flexibility to assess knowledge at a local level.

(ii) Work place assessment

It is expected that all evidence of candidate performance will be drawn from workplace practice. This evidence must show candidates meet the performance criteria consistently in their work, over a period of time. The evidence will also materialise from different workplace situations and be varied in nature - work products, records, discussions as well as observation of, and commentaries on, candidate behaviour.

All of the performance and knowledge criteria for each unit must be evidenced, along with the prescribed scope, range and performance requirements.

It is recommended that effective use be made of available opportunities for evidence collection in line with the following principles:

- Evidence must be valid and genuinely produced by or about the candidate
- Evidence from a range of sources will normally be preferable to repeated examples of evidence from a single source - sole use of one type of evidence will need to be justified
- Assessors should pay due regard to the cost-effectiveness of using varied sources of evidence when planning assessments with a candidate

(iii) Simulation

The sector skills council (EU Skills) defines simulated activities as those which are carried out without the environment, resources or equipment found within the workplace and involve acting or other scenarios which are not 'real' work tasks. EU Skills has not identified any specific areas in the distribution diplomas that warrant assessment through simulation, however, in the extremely rare instance where it is felt that simulation is required this is only acceptable in relation to those few instances which display one or more of the following characteristics (details of planned simulation must be submitted for approval by centres to their external verifier):

- where health and safety could be compromised by seeking workplace evidence
- where the behaviour or situation under which assessment occurs happens infrequently in the workplace
- where the electricity network, plant or apparatus needs to be placed in an unacceptable operating state to allow for assessment to take place.
- In all cases where the use of evidence from simulations is permitted, this is clearly detailed in the element or unit concerned.

Where simulation is used the environment must be set up to mirror the features of an electricity distribution environment in all of the following aspects:

- nature of the plant, apparatus and equipment
- ambient noise, light and temperature levels
- handling characteristics of materials used
- presence, actions and capabilities of other personnel

Where simulation is used the simulated activity must be designed to mirror the same activity carried out in an electricity distribution environment:

- The urgency with which the activity must be carried out and the time needed to complete it
- The number and sequence of actions needed to complete the activity
- The skills needed to carry out the activity
- The nature and availability of resources needed to carry out the activity
- Access to references and sources of advice and assistance that could be needed if problems arise
- The type of documentation to be completed
- The standards to which the activity must be carried out, including any practices and procedures which require to be followed
- The outcomes which the activity will produce.
- Centre proposals for the use of simulation should be approved by the Awarding Body in advance of being used and may be rejected if they fail to comply with the characteristics listed above.

(iv) Realistic working environments (RWE):

The SSC has provided the following contexts for illustration where assessment in a RWE might be used:

- Where demonstration of emergency shutdown and related safety procedures would be **dangerous and/or disruptive** to plant/environment/individuals; **too costly** such as total plant shutdown or dealing with spillage of dangerous substances; where **issues of confidentiality** restrict access to real work opportunities
- Demonstrating specific aspects of the operation which rarely or never occur because of effective quality assurance systems
- The capacity to integrate disparate knowledge to cope with unforeseen events and to solve problems
- Aspects of working relationships and communications for which no opportunity has presented for the use of naturally occurring workplace evidence of candidate performance

Although it is expected that candidates provide all evidence from the work place, the SSC has identified the following types of activities as being potentially suitable for assessment through RWE (these **details of planned simulation must be submitted for approval by centres to their external verifier**):

1. Planning and preparing for emergency response
2. Isolation of the fault and contingency action
3. Fault diagnosis and problem causation

The following conditions for assessment in a RWE **must** be met:

1. Assessments must be carried out under realistic work pressures that are found in the normal industry workplace
2. Assessments must be carried out in conditions and facilities which are typical of those encountered in the normal industry workplace
3. The range of materials, equipment and tools that candidates use must be up-to date
4. and be of the type routinely found in the normal industry workplace environments.
5. All work carried out should be completed in a way, and to a timescale, that is acceptable in the normal industry workplace
6. Candidates must interact with the range of personnel and contractors found in the normal industry workplace
7. Candidates must be expected to achieve a volume of work comparable to that expected in the normal work situation being replicated
8. Candidates must be given workplace responsibilities that will enable them to meet the requirements of the National Occupational Standards / units of assessment
9. Candidates must show their productivity reflects that found in the work situation being replicated
10. The RWE must take into account legislation, regulations, codes of practice, etc, which pertain to the regulated environment
11. The RWE must be managed as a real work situation

(v) Witness testimony:

Witness testimony

The SSC supports the use of witness testimony as a natural and efficient way of **contributing** to a candidate's source of evidence of competence. Nonetheless, the quality of this type of evidence will be affected by knowledge the witness has about the qualification requirements and their own competence in the occupational role.

As a minimum, witnesses should be:

- Fully briefed and clear about the purpose and use of the testimony
- Able to demonstrate they have the necessary expertise in the occupational area for which they are providing testimony

Witnesses should be:

- Occupationally competent in the functions covered by the units to which they are contributing. This competence will have been gained by working within the energy and utilities sector.
- Maintaining their occupational competence by engaging in continuing professional development activities to keep up-to-date with developments and changes taking place within the energy and utilities sector.
- Working currently, or within the last year, in a post directly related to the qualification units they are witnessing.
- Familiar with the national occupational standards / units of assessment and be able to interpret current working practices and technologies within the area of work.
- Have had an appropriate induction to the Energy & Utility Skills national occupational standards, the awarding body, and assessment centre requirements and have ongoing support by way of access to updating and other issues connected with the qualifications.

(vi) Knowledge & understanding

The requirement to prove competency is through skills, knowledge and understanding and as such all of the units within the distribution qualifications contain knowledge and understanding criteria that must be evidenced to achieve the full qualification.

Evidencing the knowledge and understanding - the criteria of which are qualified by company policies and procedures; legislation and regulations – can come through natural performance, professional discussion or oral questioning. All knowledge and understanding assessment methods must be recorded along with the candidate's answers and/or outcomes - where a component of knowledge and understanding is common across more than one unit, there is no need to assess it independently in relation to each unit.

To support standardisation each unit is delivered with ten knowledge questions and their range of acceptable answers (see the relevant questions and answers document for further details). These questions must be evidenced through either natural performance or professional discussion. In the context of the skill-based units these questions may provide evidence against the knowledge and understanding criteria, which have been lifted directly from the relevant national occupational standard. Where there are gaps further oral questioning or observation will be required to confirm the criteria has been met.

The use of questioning to probe candidate competence in relation to rare or dangerous occurrences should be undertaken only when the use of realistic simulations to address the same competence cannot practically be applied. In all cases, simulation accompanied by oral questioning should be preferred to questioning alone. The use of oral rather than written questioning is recommended to allow assessors the flexibility to investigate those aspects of a candidate's knowledge and understanding alongside evaluation of other forms of evidence.

4.2 Recording forms

Candidates and centres may decide to use a paper-based or electronic method of recording evidence - City & Guilds endorses several e-Portfolio systems. Further details are available at: www.cityandguilds.com/eportfolios.

Candidate evidence books are supplied with the distribution qualifications should centres require to use these. Centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre - amendable (MS Word) versions of generic forms are available on the City & Guilds website.

4.3 Accreditation of prior learning and experience (APEL)

Accreditation of Prior Learning (APL) and Accreditation of Prior Experience and Learning (APEL) recognise the contribution a person's previous experience could contribute to a qualification. As these qualifications are specifically related to the Power sector it is not expected that candidates will present with APEL. However, and in line with the sector skills council Energy & Utility Skills' assessment strategy, City & Guilds supports the use of other qualifications as valuable contributions to evidence of competence.

Where APEL is sought the centre must first confirm this with the external verifier or seek their advice where there is uncertainty.

For candidates registered on the 2353 N(S)VQ for more than one year prior to September 2009 City & Guilds recommends they complete their N(S)VQs and do not transfer to the new SCQF diplomas.

For candidates transferring from the N(S)VQ to the SCQF qualification the onus will be on the centres to ensure a thorough mapping exercise has taken place between the two sets of standards to ensure all of the SCQF performance criteria have been met. The results of this mapping must be confirmed with the external verifier before any units / qualifications can be claimed.

To assist centres City & Guilds has undertaken a mapping exercise at unit level between the SVQ and SCQF. Where there are units not covered this indicates a completely new unit.

5 Course design and delivery

Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify:

- any specific training needs the candidate has, and the support and guidance they may require when working towards their qualification(s). This is sometimes referred to as diagnostic testing.
- any units the candidate has already completed, or credit they have accumulated which is relevant to the qualification(s) they are about to begin.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

Typically, the phases of learning will incorporate (i) core engineering skills and knowledge; (ii) specific unit skills and knowledge (iii) on-site consolidation followed by (iv) assessment.

Further guidance about initial assessment and induction, as well as a learning contract that centres may use, are available on the City & Guilds website www.cityandguilds.com

Appendix 1 Relationships to other qualifications

Links to other qualifications and frameworks

City & Guilds has identified at a unit level the mapping between the 2343 QCF and the 2353 N(S)VQ. This unit-level mapping (provided below) is as guidance and suggests areas of overlap and commonality between the qualifications. It does not imply that candidates completing units in one qualification are automatically covering all of the content of the qualifications listed in the mapping. Where there is no evidence of mapping, this indicates a new unit at the title level, although the underlying performance criteria may have some overlap.

Centres are responsible for checking the different requirements of all qualifications they are delivering and ensuring that candidates meet requirements of all units/qualifications. For example, units within the 2343 qualification may be similar in content to units in the 2353 N(S)VQ qualification which the candidate may have already undertaken and this may present opportunities for APL.

Centres must consult with their external verifier if there are any areas of uncertainty.

Mapping: Level 5 Substation Plant (2343-51)

Unit number in 2343-51	Unit number in 2353
001	750
002	755
003	-
004	-
005	759/760
006	757
007	-
008	764
009	765
010	769
011	-
012	-
013	764
014	765
015	769
016	-
017	770
018	-

Mapping: Level 5 Underground Cables (2343-52)

Unit number in 2343	Unit number in 2353
001	750
002	755
003	-
004	-
005	459/760
006	757
019	-
020	758
021	-
022	-
023	-
024	-
025	-
026	-
027	-
028	-
029	-
030	-
031	762
032	-
033	-
034	-
035	-

Mapping: Level 5 Overhead Lines (2343-53)

Unit number in 2343	Unit number in 2353
001	750
002	755
003	-
004	-
006	757
036	759/760
037	756
038	756
039	766
040	767
041	-
042	-
043	-
044	-
045	-
046	770
047	-
048	-
049	766
050	767
051	768
052	-

Mapping: Level 6 Substation Plant (2343-31)

Unit number in 2343

Unit number in in 2353

053	799
054	771
055	798
056	784/785
057	794
058	
059	
060	
061	
062	
063	794
064	784/785

Mapping: Level 6 Underground Cables (2343-32)

Unit number in 2343	Unit number in 2353
053	799
054	771
055	798
056	784/785
065	
066	
067	
068	792
064	784/785

Mapping: Level 6 Overhead Lines (2343-33)

Unit number in 2343	Unit number in 2353
053	799
054	771
055	798
069	784/785
070	795
071	
072	
073	
074	783
075	793
064	784/785
076	793
077	
078	782

Key/Essential Skills (England, Wales and Northern Ireland)

Key Skills signposting

These qualifications include opportunities to develop and practise many of the underlying skills and techniques described in Part A of the standard for each Key Skills qualification. Where candidates are working towards any Key Skills alongside these qualifications they will need to be registered with City & Guilds for the Key Skills qualifications.

It should not be assumed that candidates will necessarily be competent in, or able to produce evidence for, Key Skills at the same level as these qualifications.

Essential Skills (Northern Ireland only)

If these qualifications are being delivered alongside the Essential Skills Northern Ireland qualifications, the Key Skills signposts can be used to illustrate the relevance of these skills to candidates.

Essential Skills portfolio evidence must be based on an approved vocational or generic Action Based Activity; these can be downloaded from www.cityandguilds.com/essentialskillsni.

Functional Skills (England only)

The Key Skills qualifications are expected to be phased out in England from 2010, and will be largely replaced by the Functional Skills awards. More information about these qualifications is available from www.cityandguilds.com/functionalskills.

The units have been mapped to the relevant national occupational standard (NOS), which in turn have been signposted to Key Skills and **Workplace Core Skills (Scotland)** by the sector skills council. The 'signposts' below identify the **potential** for Key Skills portfolio evidence gathering that can be naturally incorporated into the completion of each unit. Any Key Skills evidence will need to be separately assessed and must meet the relevant standard defined in the QCA document '*Key skills qualifications standards and guidance*' (available from www.cityandguilds.com/keyskills).

Key to acronyms in the tables:

- EPUS - reference for EU Skills NOS
- SEMTA – reference for SEMTA NOS
- ICS – reference for Institute of Customer Service NOS

2343-51 Unit #	Unit Title	Underlying NOS	Key Skills					Workplace Core Skills*					
			C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
001	Working Safely in the power sector	Semta-Y1/103/8664	1/2	/	/	2	/	/	1/2	/	/	4	/
002	Working Efficiently and effectively in the power sector	Semta-R/103/8666	1/2	/	/	2	1/2	1/2	1/2	/	/	4	1/2
003	Using and communicating technical information in the power sector	Semta-L/103/8666	1/2	/	/	1/2	/	/	1/2	/	/	4	/
004	Customer relations for working in the power sector	ICS 22	1	1	/	2	1	/	1	1	/	/	/
005	Movement of Cable, Plant and Apparatus	EPUS 16	1	1	/	/	/	/	4	4	/	/	/
006	Access, Egress and Movement in Substations	EPUS 12	1	/	/	2	/	/	4	/	/	4	4
007	Electrical and Functional Testing of Fitting Plant and Apparatus	EPUS 10	1	/	/	1	/	/	4	/	/	/	4
008	Install Distribution Substation Plant and Apparatus	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
009	Dismantle Distribution Substation Plant and Apparatus	EPUS 5	1	/	/	2	/	/	4	/	/	4	4
010	Maintain Distribution Substation Plant and Apparatus	EPUS 6	1	/	/	2	/	/	4	/	/	4	4
011	Inspection and Maintenance of Battery Systems	EPUS 7	1	/	/	2	/	/	4	/	/	4	4
012	Substation Earthing Installation and Testing	EPUS 36	1	/	/	/	/	/	4	/	/	/	4
013	Install Primary / EHV Substation Plant and Apparatus	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
014	Dismantle Primary / EHV Substation Plant and Apparatus	EPUS 5	1	/	/	2	/	/	4	/	/	4	4
015	Maintain Primary / EHV Substation Plant and Apparatus	EPUS 6	1	/	/	2	/	/	4	/	/	4	4
016	Fault Repair of Distribution and HV Substation Plant/ Apparatus	EPUS 38	1	/	/	/	/	/	4	/	/	/	/
017	Inspection of Substation Plant and Apparatus	EPUS 7	1	/	/	2	/	/	4	/	/	4	4
018	Maintain Compressed Air Systems	EPUS 6	1	/	/	2	/	/	4	/	/	4	4

2343-52 Unit #	Unit Title	Underlying NOS	Key Skills						Workplace Core Skills*				
			C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
001	Working Safely in the power sector	Semta-Y1/103/8664	1/2	/	/	2	/	/	1/2	/	/	4	/
002	Working Efficiently and effectively in the power sector	Semta-R/103/8666	1/2	/	/	2	1/2	1/2	1/2	/	/	4	1/2
003	Using and communicating technical information in the power sector	Semta-L/103/8666	1/2	/	/	1/2	/	/	1/2	/	/	4	/
004	Customer relations for working in the power sector	ICS 22	1	1	/	2	1	/	1	1	/	/	/
019	Location and Identification of Underground Utility Services	EPUS 44	1	/	/	/	/	/	4	/	/	/	4
020	Access and Egress and Movement within the Working Area	EPUS 12	1	/	/	2	/	/	4	/	/	4	4
021	Service Jointing on Low Voltage Underground Cables	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
022	Jointing and Termination of Low Voltage Mains Underground Cables	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
023	Jointing and Termination of High Voltage (Up to 25kv) Underground Cables	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
024	Over 25kV XLPE Jointing and Terminations	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
025	Over 25kV Paper Insulated Jointing and Terminations (Non-Pressurised)	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
026	Over 25kV Paper Insulated Jointing and Terminations (Pressurised)	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
027	Electrical Testing of Underground Cables and Apparatus	EPUS 10	1	/	/	1	/	/	4	/	/	/	4
028	Repairs to Faulted or Damaged LV Service and Mains Cables (Non-Diagnosis)	EPUS 38	1	/	/	/	/	/	4	/	/	/	/

029	Carry out Excavation Activities on Underground Cables	EPUS 43
030	Inspect the Installation of Underground Cables	EPUS 7
031	Install Underground Cables	EPUS 3
032	Carry out Jointing on Pilot/ Telephone Cables	EPUS 9
033	Carry out Jointing on Low Voltage Concentric Cables	EPUS 9
034	Carry out Jointing on Low Voltage Consac Cables	EPUS 9
005	Movement of Cable, Plant and Apparatus	EPUS 16
035	Repairs to Faulted or Damaged HV Cables (Non-Diagnosis)	EPUS 38
006	Access, Egress and Movement in Substations	EPUS 12

1	/	/	/	/	/	4	/	/	/	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	2	/	/	4	/	/	4	4
1	1	/	/	/	/	4	4	/	/	/
1	/	/	/	/	/	4	/	/	/	/
1	/	/	2	/	/	4	/	/	4	4

2343-53 Unit #	Unit Title	Underlying NOS	Key Skills					Workplace Core Skills*					
			C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
001	Working Safely in the power sector	Semta- Y1/103/8664	1/2	/	/	2	/	/	1/2	/	/	4	/
002	Working Efficiently and effectively in the power sector	Semta- R/103/8666	1/2	/	/	2	1/2	1/2	1/2	/	/	4	1/2
003	Using and communicating technical information in the power sector	Semta- L/103/8666	1/2	/	/	1/2	/	/	1/2	/	/	4	/
004	Customer relations for working in the power sector	ICS 22	1	1	/	2	1	/	1	1	/	/	/
036	Movement of Overhead Line Plant and Apparatus	EPUS 16	1	1	/	/	/	/	4	4	/	/	/
037	Access/Egress and Work on Wood Pole Structures	EPUS 12	1	/	/	2	/	/	4	/	/	4	4
038	Access/Egress and Work on Steel Tower Structures	EPUS 12	1	/	/	2	/	/	4	/	/	4	4
039	Install Steelwork, Fittings and Conductors on Wood Pole Structures	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
040	Dismantle Steelwork, Fittings and Conductors on Wood Pole Structures	EPUS 5	1	/	/	2	/	/	4	/	/	4	4
041	Install and Configure Apparatus on Wood Pole Structures	EPUS 11	2	2	/	/	/	/	4	4	/	4	4
042	Excavate and Install Wood Poles and Stays	EPUS 43	1	/	/	/	/	/	4	/	/	/	4
043	Electrical Testing of Overhead Line Distribution Equipment	EPUS 10	1	/	/	1	/	/	4	/	/	/	4
044	Fault Repair of Overhead Line Distribution Assets	EPUS 38	1	/	/	/	/	/	4	/	/	/	/
045	Live Low Voltage Distribution Work	EPUS 41	1	/	/	/	/	/	4	/	/	/	4
046	Inspection of Overhead Line Wood Pole Networks	EPUS 7	1	/	/	2	/	/	4	/	/	4	4
047	Earthing of Overhead Line Conductors on Steel Tower Structures	EPUS 36	1	/	/	/	/	/	4	/	/	/	4
048	Install /Replace Fittings on Steel Tower Structures	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
049	Install EHV Conductors on Steel Tower Structures	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
050	Dismantle EHV Conductors on Steel Tower Structures	EPUS 5	1	/	/	2	/	/	4	/	/	4	4

051 Maintain Apparatus on Steel Tower Structures
 052 Jointing of Overhead Line EHV Conductors
 005 Access, Egress and Movement in Substations

EPUS 6
 EPUS 9
 EPUS 12

1	/	/	2	/	/	4	/	/	4	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	2	/	/	4	/	/	4	4

2343 - 31 Unit #	Unit Title	Underlying NOS	Key Skills				Workplace Core Skills*						
			C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
053	Organise the Use of Resources	Semta-ECSNo/4.14	2	/	/	/	1	/	2	/	/	/	1
054	Control of Working Parties	epus045	2	/	/	3	/	/	5	/	/	5	5
055	Produce, Communicate and Record Technical Information	Semta-ECSNo/1.14	2	/	/	/	3	/	H	/	/	/	H
056	Low Voltage Substation Switching Operations	EPUS 8	1	/	/	2	/	/	4	/	/	/	4
057	Diagnostic Testing and Fault Finding	EPUS 14	2	/	/	/	3	/	4	/	/	/	4
058	Protection Testing on Over-current and Earth Fault Schemes	EPUS 10	1	/	/	1	/	/	4	/	/	/	4
059	Pressure Testing of HV Distribution Equipment	EPUS 10	1	/	/	1	/	/	4	/	/	/	4
060	Install and Maintain Supervisory Control And Data Acquisition Systems	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
061	Install Protective Relays and Metering Equipment	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
062	Install HV VT / CT Metering Equipment	EPUS 3	1	/	/	2	/	/	4	/	/	4	4
063	Diagnose Faults on Compressed Air Systems	EPUS 14	2	/	/	/	3	/	4	/	/	/	4
064	HV Switching Operations	EPUS 8	1	/	/	2	/	/	4	/	/	/	4

2343 - 32 Unit #	Unit Title	Underlying NOS	Key Skills					Workplace Core Skills*					
			C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
053	Organise the Use of Resources	Semta-ECSNo/4.14	2	/	/	/	1	/	2	/	/	/	1
054	Control of Working Parties	EPUS 045	2	/	/	3	/	/	5	/	/	5	5
055	Produce, Communicate and Record Technical Information	Semta -ECSNo/1.14	2	/	/	/	3	/	H	/	/	/	H
056	Low Voltage Substation Switching Operations	EPUS 8	1	/	/	2	/	/	4	/	/	/	4
065	LV Cable Fault Location and Diagnosis	EPUS 14	2	/	/	/	3	/	4	/	/	/	4
066	Fibre Optic Fusion Splicing and Terminations	EPUS 9	1	/	/	2	/	/	4	/	/	4	4
067	Phasing out of HV Cables	EPUS 39	1	/	/	/	/	/	4	/	/	/	4
068	Inspect and Maintain Oil and Gas Filled Cable Systems	EPUS 7	1	/	/	2	/	/	4	/	/	4	4
064	HV Switching Operations	EPUS 8	1	/	/	2	/	/	4	/	/	/	4

2343 - 33 Unit Title

Unit #

Underlying NOS

Key Skills

Workplace Core Skills*

053	Organise the Use of Resources	Semta-ECSNo/4.14
054	Control of Working Parties	epus045
055	Produce, Communicate and Record Technical Information	Semta - ECSNo/1.14
069	Low Voltage Overhead Line Switching Operations	EPUS 8
070	Overhead Line Fault Diagnosis	EPUS 14
071	Live Line Operations using Insulated Rods	EPUS 41
072	Hotstick Operations	EPUS 41
073	Hotglove Operations	EPUS 41
074	Install and Configure Overhead Line Apparatus on Steel Tower Structures	EPUS 3
075	Fault Repair of Overhead Line Apparatus on Steel Tower Structures	EPUS 38
064	HV Switching Operations	EPUS 8
076	Inspection of Overhead Line Steel Tower Networks	EPUS 7
077	Complex Earthing of Overhead Line Circuits	EPUS 36
078	Erection of Steel Tower Structures	EPUS 3

C	AN	ICT	WO	PS	IL	C*	N*	ITC*	WO*	PS*
2	/	/	/	1	/	2	/	/	/	1
2	/	/	3	/	/	5	/	/	5	5
2	/	/	/	3	/	H	/	/	/	H
1	/	/	2	/	/	4	/	/	/	4
2	/	/	/	3	/	4	/	/	/	4
1	/	/	/	/	/	4	/	/	/	4
1	/	/	/	/	/	4	/	/	/	4
1	/	/	/	/	/	4	/	/	/	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	/	/	/	4	/	/	/	/
1	/	/	2	/	/	4	/	/	/	4
1	/	/	2	/	/	4	/	/	4	4
1	/	/	/	/	/	4	/	/	/	4
1	/	/	2	/	/	4	/	/	4	4

Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds SCQF 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 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.

Providing City & Guilds qualifications – a guide to centre and qualification approval 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.

Ensuring quality contains updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document contains information on:

- Management systems
- Maintaining records
- Assessment
- Internal verification and quality assurance
- External verification.

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**
Find out how to register and certificate candidates on line
- **Events**
Contains dates and information on the latest Centre events
- **Online assessment**
Contains information on how to register for GOLLA assessments.

Useful contacts

UK learners General qualification information	E: learnersupport@cityandguilds.com
International learners General qualification information	E: intcg@cityandguilds.com
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	E: centresupport@cityandguilds.com
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	E: singlesubjects@cityandguilds.com
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	E: intops@cityandguilds.com
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	E: walledgarden@cityandguilds.com
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	E: business@cityandguilds.com

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