




Quality Council for Trades & Occupations

[www.qcto.org.za](http://www.qcto.org.za)

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## QCTO OCCUPATIONAL SKILLS PROGRAMME DOCUMENT

SKILLS PROGRAMME	SKILLS PROGRAMMES ID	TITLE (DESCRIPTOR)	NQF LEVEL	CREDITS
	SP-250606	Electrical Line Mechanic's Assistant (Low and Medium Voltage)	2	49
START DATE	END DATE	LAST DATE FOR ENROLMENT	LAST DATE FOR ACHIEVEMENT	
11 June 2025	11 Jun 2030	11 Jun 2031	11 Jun 2034	
CURRICULUM CODE	900523-000-00-00			
PARTNER DETAILS	ORGANISATION NAME	WEBSITE ADDRESS	TELEPHONE NUMBER	LOGO
QUALITY PARTNER - DEVELOPMENT	The Energy & Water Sector Education Training Authority (EWSETA)	<a href="http://www.ewseta.org.za">www.ewseta.org.za</a>	011 274 4700	

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## 1. SKILLS PROGRAMME DETAILS

### 1.1 Sub-Framework: Occupational Qualifications Sub-Framework

Occupational Qualifications Sub-Framework

### 1.2 Type (Nomenclature):

1.2.1 Specify if this is a Qualification/Part-Qualification/Skills Programme  
Skills Programme

1.2.2 Type: (Nomenclature) e.g. Advanced Occupational Certificate)  
Skills Programme

### 1.3 Title Descriptor:

Electrical Line Mechanic's Assistant (Low and Medium Voltage)

### 1.4 NQF Level:

2

### 1.5 Credits:

49

### 1.6 QCTO Curriculum Code:

900523-000-00-00

### 1.7 Originator/Quality Partner (QP) – Development

#### 1.7.1 Quality Partner (Qualifications Development)

The Energy & Water Sector Education Training Authority (EWSETA)

#### 1.7.2 Quality Partner (Assessment)

N/A

### 1.8 Replacement

*This Skills Programme replaces:*

SAQA QUAL/US/LP ID OR QCTO/SETA APPROVAL ID	QUALIFICATION TITLE	Pre-2009 NQF Level	CURRICULUM CODE (if Occupational)	NQF LEVEL	MIN. CREDITS
None					

## **2. RATIONALE**

### **2.1 The need for the Skills Programmes**

The need for this Skills Programme resulted from the requirement to provide entry level knowledge and skills to people with an interest in assisting a qualified Electrical Line Mechanic. Electrical Line Mechanics often manage multiple tasks simultaneously. Skilled assistants can take on responsibilities like constructing Low Voltage/Medium Voltage (LV/MV) infrastructure, handling and installing overhead lines and cables, installing infrastructure components, and maintaining lines and structures, thereby enabling the Electrical Line Mechanic to focus on complex aspects of the job. This skills programme addresses this specific need.

### **2.2 Similar Qualification(s), Part-Qualifications/Skills Programmes**

Currently, there are no similar registered qualifications, part-qualifications or approved skills programmes specifically focused on the knowledge and skills required by Electrical Line Mechanic's Assistants.

### **2.3 Benefit to the sector, society and the economy**

The introduction of the Electrical Line Mechanic's Assistant skills programme offers numerous benefits to the sector, society, and the economy. For the Electrical sector, trained Electrical Line Mechanic's Assistants will contribute to the overall safety record, higher quality output, and create a talent pipeline.

Society may benefit as a larger pool of trained Electrical Line Mechanic's Assistants would result in fast tracking electrical transmission and distribution work to meet the country's demand. Training ensures tasks are performed correctly, reducing errors and rework, which saves time.

Economically, the programme supports job creation and workforce growth. With more trained personnel, it would be possible to reduce delays and fast track delivery of electricity to the entire country. Availability of electricity is crucial for economic growth.

### **2.4 Typical learners**

Typical learners are entry-level workers in the electrical field as well as school leavers seeking entry-level skills that provide quick access to the workforce in a hands-on, technical career.

### **2.5 Relation to Occupation(s) and/or Profession(s)**

2.5.1 Occupation(s) related:

*2.5.1.1 Collaboration with relevant stakeholders:*

Various stakeholders from the electrical engineering field participated in the development of this skills programme:

- Government departments
- Employers and employer associations
- Workplace practitioners
- Assessment/Curriculum experts
- Training providers (both public and private)

*2.5.1.2 List typical occupations in which the qualifying learner will operate (if relevant)*

Electrical Line Mechanic's Assistant, Electric Cable Layer / Puller, Electrician's Assistant.

2.5.2 Profession(s) related:

*2.5.2.1 Collaboration with relevant stakeholders:*

N/A

*2.5.2.2 List typical professions in which the qualifying learner will operate (if relevant)*

N/A

### **3. PURPOSE**

#### **3.1 Benefit the learners:**

This skills programme will benefit learners as it will provide them with an advantage to seek employment or progress in current employment in the electrical field with knowledge and skills related to the construction of low and medium voltage structures, overhead lines and conductors and the maintenance thereof.

#### **3.2 What the skills programme intends to achieve:**

The purpose of the skills programme is to prepare a learner to operate as an Electrical Line Mechanic's Assistant.

An Electrical Line Mechanic's Assistant assists a qualified Electrical Line Mechanic to install, maintain and repair electrical infrastructure that operates above 1kV up to and including 33kV.

A qualified learner will be able to:

- Construct low/medium voltage (LV/MV) structures, overhead lines and conductors.
- Install, inspect and maintain low/medium voltage (LV/MV) lines and infrastructure components.

#### **3.3 Typical Graduate attributes**

A qualified learner will demonstrate the following key attributes: problem solving, decision making, and teamwork.

## 4. ENTRY REQUIREMENTS

NQF Level 1 qualification

## 5. RECOGNITION OF PRIOR LEARNING (RPL)

### 5.1 RPL for Access to Training/Exemption:

Learners may use the RPL process to gain access to training opportunities for a skills programme if they do not meet the formal, minimum entry requirements for admission. RPL assessment provides an alternative access route into a skills programme.

Such an RPL assessment may be developed, moderated and conducted by the accredited Skills Development Provider which offers that specific skills programme. Such an assessment must ensure that the learner is able to display the equivalent level of competencies required for access, based on the NQF level descriptors.

For exemption from modules through RPL, learners who have gained the stipulated competencies of the modules of a skills programme through any means of formal, informal or non-formal learning and/or work experience, may be awarded credits towards relevant modules, and gaps identified for training, which is then concluded.

### 5.2 RPL for Access to the Final Integrated Supervised Assessment (FISA):

Learners who have gained the stipulated competencies of the modules of a skills programme through any means of formal, informal or non-formal learning and/or work experience, may be awarded credits towards relevant modules, and gaps identified for training, which is then concluded.

For a Skills Programme, the accredited Skills Development Provider (SDP) must ensure all modular competency requirements are met prior to the FISA and keep record of such evidence.

Upon successful completion of the FISA, RPL learners will be issued with the QCTO certificate for the skills programme. Quality Partners are responsible for ensuring the RPL mechanism and process for skills programme is approved by the QCTO.

## 6. RULES OF COMBINATION

### 6.1 Components:

#### KNOWLEDGE/THEORY COMPONENT

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900523-000-00-KM-01	Workplace health and safety	2	8	Blended
900523-000-00-KM-02	Tools, equipment and electrical work	2	5	Blended
900523-000-00-KM-03	Low and medium voltage (LV and MV) construction	2	10	Blended
900523-000-00-KM-04	Low and medium voltage (LV and MV) structure and line inspection	2	1	Blended

Total Credits = 24

#### APPLICATION MODULE(S)

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900523-000-00-PM-01	Prepare for and construct low and medium voltage (LV and MV) structures	2	5	Face to face
900523-000-00-PM-02	Handle and install overhead conductors	2	8	Face to face
900523-000-00-PM-03	Install low and medium voltage (LV and MV) infrastructure components	2	10	Face to face
900523-000-00-PM-04	Inspect and maintain lines and structures	2	2	Face to face

Total Credits = 25

### 6.2 Soft Skills Included:

5 % soft skill(s) is/are included in:

KM-01-KT01: General health and safety principles

### 6.3. Foundational Learning:

N/A

## **7. EXIT LEVEL OUTCOMES (ELO) AND ASSOCIATED ASSESSMENT CRITERIA (AAC)**

### **7.1 Exit Level Outcomes (ELO) 1:**

Use a variety of tools and instruments to construct low/medium voltage structures, overhead lines and conductors, complying to safety standards and procedures.

#### **Associated Assessment Criteria (AAC) for ELO 1:**

- Cross arms are assembled according to the given drawings.
- The required insulators are identified, selected and installed according to drawing specifications.
- Poles and stays are inspected to verify correctness of the installation in terms of the specifications.
- Pole numbers are correctly recorded according to drawing specifications.
- A conductor is tensioned to fit the required distance without any damage whilst observing safety protocols during ascending and descending the pole.

### **7.2 Exit Level Outcomes (ELO) 2:**

Maintain low/medium voltage lines and infrastructure by applying knowledge of safety and operational requirements.

#### **Associated Assessment Criteria (AAC) for ELO 2:**

- Associated protecting equipment is safely and correctly installed on Low Voltage (LV) side of a pole mounted transformers.
- Associated protecting equipment is safely and correctly installed on Medium Voltage (MV) side of a pole mounted transformers.
- Equipment for earth electrode resistance testing is correctly set up in accordance with the drawing specifications.

## **8. INTEGRATED ASSESSMENT**

### **8.1 Formative Assessments conducted internally**

Formative assessments are conducted throughout the training of learners. A range of formal, non-formal, and informal ongoing assessment activities are used to focus on teaching and learning outcomes to improve learner attainment.

Formative assessments are conducted continuously by the facilitator to feed into further learning, to identify strengths and weakness, and to ensure the learner's ability to apply knowledge, skills and workplace experience gained.

Formative Assessments are conducted by the accredited Skills Development Provider (SDP), and a variety of ongoing assessment methods may be used, for example, quizzes, assignments, tests, scenarios, role play, interviews. Continuous feedback must be provided.

### **8.2 Integrated Summative Assessments conducted Internally**

Integrated Assessment involves all the different types of assessment tasks required for a particular occupational skills programme, such as written assessment of theory and practical demonstration of competence. To achieve this, the Internal Assessment Criteria (IAC) for all modules as found in the QCTO curriculum document must be followed.

An accredited SDP should implement a well-designed, formal, relevant, final internal Summative Assessment strategy for all modules to prepare learners for the FISA. These assessments evaluate learning achievements relating to the achievement of each module of the relevant components of the skills programme.

Internal Summative Assessments are developed, moderated and conducted by the SDP at the end of each module or after integration of relevant modules, e.g. applied knowledge tests, workplace tasks, practical demonstrations, simulated tasks/demonstrations, projects, case studies, etc.

### **8.3 De-centralised Final Integrated Supervised Assessment (FISA) for Skills Programmes**

The FISA is de-centralised and the assessment standards set by the QCTO must be implemented by the accredited SDP in the development, moderation and implementation of all FISA for Skills Programmes.

The accredited SDP manages and conducts the FISA and submits learner results for QCTO approval for certification, according to QCTO required compliance standards.

For entrance into the FISA, the learner must have completed the Skills Programme successfully and be found competent in all modules, recorded internally by the SDP.

#### **Continuous Assessment**

The SDP must ensure that all learners are enrolled with the QCTO at the start of training (within 5 days) in the format required by the QCTO.

Continuous assessments are set by the SDP in accordance with the outcomes provided.

This may consist of a variety of methods, e.g. practical or written assessments, assignments, projects, demonstrations, presentations or any other form of assessment to assist the learner in the learning process.

During training, it is mandatory for formal summative assessments to take place at the end of each module/topic. These results must be formally recorded and be available for monitoring and/or evaluation by the QCTO.

### **Final Integrated Supervised Assessment (FISA)**

All learners gain entrance to the Final Integrated Supervised Assessment by successfully completing all formal summative assessments conducted by the SDP.

Format of FISA: A **Practical assessment** integrating the relevant Exit Level outcomes, with simultaneous verbal assessment of embedded knowledge by the assessor before, during or after the FISA.

All FISAs must be supervised, and virtual FISAs must be recorded throughout the assessment.

All Exit Level Outcomes must be covered in the FISA. In the FISA, the learner must demonstrate applied knowledge and skills to prove that the competencies of the Skills Programme have been achieved.

The FISA may not contain any assessments used in the "Continuous Assessment" process (thus no re-assessment).

Special considerations should be made for candidates with special learning needs.

### **Standards for Final Integrated Supervised Assessment (FISA):**

The learner should be provided with a brief/job card/task to demonstrate what the learner should show, know or produce in a product, relevant to the Exit Level Outcomes and the purpose of the Skills Programme. This is the section where the learner must show applied competency (what the learner must be able to do, and to what expected standard)

The FISA INSTRUMENT brief/task [similar to a job card]) must be developed and moderated by the SDP and conducted in a supervised environment. It is assessed by means of an **INSTRUMENT** and **RUBRIC** developed by the SDP for this purpose:

In a simulated or real environment, the candidates must be given a brief in which they must be required to practically demonstrate their ability to perform tasks related to assisting an Electrical Line Mechanic Assistant.

#### **1.1. Pre-Work Setup**

- Select and inspect required PPE
- Prepare tools and confirm equipment condition
- Participate in pre-job safety briefing
- Set up safety signs and barrier zones

## 2.2. Supporting Line Work

- Safely hand tools and materials to the line mechanic
- Secure cables and conductors under supervision
- Perform basic wire stripping, taping, and tagging
- Stabilize ladders and equipment for qualified personnel
- Operate lifting and rigging equipment under direction

## 2.3. Post-Work Procedures

- Clean, inspect, and store tools and PPE
- Assist in worksite cleanup and securing unused materials
- Complete checklists or assisting with job reports
- Report defects, hazards, or near misses

## 2.4. Emergency Scenarios (Simulated)

- Respond to an electric shock incident (first response only)
- Activate emergency shutdown or alert systems
- Demonstrate CPR on a mannequin
- Evacuate the area and report the emergency

Please take note of the following:

- a. Candidates must have clear guidelines and instructions on completing the assessment tasks/job, including the assessment criteria and expected outcomes.
- b. The duration of the assessment is 6 hours.
- c. Candidates must be declared C/NYC.
- d. No FISA instrument is allowed to be used verbatim for re-assessment or for a different cohort of learners.

**NOTE:** Should a learner be found to be competent in all of the above areas, they should be declared “Competent”. If not yet competent in any of the above areas, they should be declared “NYC”, re-trained and then be re-assessed with different applicable tasks/scenarios.

The marking rubric/compliance checklist used to assess these competencies must include a section for the assessor/facilitator used in this session to make a note of competencies shown, (or not shown), as well as the questions that were asked, and a summary of the learner's answers, and state whether these are of the acceptable standard or not.

The marking rubric/compliance checklist compiled should contain specific areas marked with an asterisk (\*) as compulsory sections in order for the learner to be declared C (Competent). Compulsory sections are when the safety of the candidate or others would be affected if incorrectly completed.

Learners who complete this skills programme will accumulate credits towards the relevant full or part qualification. The Credit Accumulation and Transfer (CAT) Policy may apply to these learners.

### **Submission of final results**

Final results must be submitted to the QCTO in the required format, within 21 days of the date of the FISA, together with the following:

- Completed QA Verification Report on the FISA (QCTO template: relevant sections).
- A copy of the final Assessment Instrument used, as well as the marking guideline / rubric.
- Learner results spreadsheet

## 9. ARTICULATION

### 9.1 Articulation for Skills programmes

(a) *Work Opportunities:*

Learners successfully completing this skills programme may be employable in the electrical field for roles related to the installation, maintenance and repair of electrical infrastructure.

(b) *Learning Opportunities:*

Learners completing this skills programme may further their studies by enrolling in electrical installation related qualifications and skills programmes subject to adhering to their minimum entry requirements.

## 10. NOTES

### 10.1 Additional Legal or Physical Entry Requirements

Learners must be physically or mentally able, may not be colour blind and must have completed accredited working at heights training.

### 10.2 Criteria for Accreditation

Accreditation requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, is found in the Curriculum Document, as listed below.

Curriculum Code:

900523-000-00-00

### 10.3 Encompassed Trades (where applicable)

This is not a trade qualification.

## 12. ASSOCIATED QUALIFICATION(S)/PART-QUALIFICATION(S):

SAQA QUAL ID	QUALIFICATION TYPE	QUALIFICATION DESCRIPTOR	NQF LEVEL	CREDITS
...	N/A			