REPUBLIC OF KENYA

COMPETENCY BASED CURRICULUM

FOR

ELECTRICAL OPERATION (POWER OPTION)

KNQF LEVEL 5

ISCED CODE: 07130554 B

TVET CDACC
P.O BOX 15745-00100
NAIROBI

ELECTRICAL TRANSMISSION POWER LINES

UNIT CODE: ENG/CU/PO/CR/02/5/B

Relationship to Occupational Standards
This unit addresses the unit of competency: Install Electrical power line

Duration of Unit: 90 hours

Unit Description
This unit covers the competencies required to install Electrical power lines and cables: The competencies include; Erect transmission poles, mount transmission cables, terminate conductors and finally test and inspect installation.

Summary of Learning Outcomes

1. Erect transmission lines support
2. Mount transmission lines
3. Terminate transmission line
4. Test and inspect installation

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Erect transmission line support	• Meaning of transmission line support • Types of supports • Material used in manufacturing of transmission line supports e.g. • Concrete • Steel • Wooden • Erecting of transmission line support • Application of transmission line	• Written tests • Oral questioning
2. Mount transmission line	• Types of transmission line conductors • Equipments used in mounting transmission lines e.g • Climbers • Drilling Machine	• Observation • Oral questioning • Written tests

Learning Outcome	Content	Suggested Assessment Methods
	• Transmission line spacing and corona effects • Tension and sag in transmission line • Components used in mounting. transmission lines e.g. • Cross arms • Transformers • Isolators • Insulators • Danger plates • Lightening arrestors • Anti-climbing wire • Cables • Bolts and Nuts • Components used in transmission line protection e.g. • Switch gear • Fuses • Isolators • Circuit breakers • Transmission line protection • Earthing • Lightening arrestors • Surge diverters	
3. Terminate transmission line	• Meaning of transmission line termination • Types of transmission line termination e.g. • AC and DC • End point loads • Type of loads • Cable joints • Types of cable joints • Components used in line termination e.g. • Lugs • Fuses (Droppers)	• Observation • Oral questioning • Written tests
4. Test and inspect transmission installation	• Meaning of testing in line transmission • Types of tests in line transmission e.g	• Written tests • Oral questioning

Learning Outcome	Content	Suggested Assessment Methods
	• Continuity test • Short circuit test • Insulation test • Earth continuity test • Mechanical strength • Voltage regulation testing and efficiency	• Practical tests

Suggested Methods of Instructions

- Discussions
- Site visits
- On-job-training
- Charts and Audio-visual presentations

Recommended Resources

- Computers
- Printers
- Cameras
- Stationery
- Phones