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1. Summary and Background

Elundini Local Municipality (ELM) is currently accepting proposals for experienced Electrical Engineers to update Electrical networks designs within its area of electricity supply.

The purpose of this Request for Proposal (RFP) is to solicit proposals from various experienced Electrical Engineers, conduct a fair and extensive evaluation based on criteria listed herein, and select the service provider who best represents the service delivery objectives of ELM specifically accepted performance of the electrical network.

ELM is a rural local municipality of the four situated in the Joe Gqabi district of the Eastern Cape Province. The municipality is comprised of three towns Mt Fletcher, Ugie and Maclear. ELM holds a National Energy Regulator of South Africa (NERSA) electricity distribution license for two of the three towns namely Maclear and Ugie. ELM operates electrical network infrastructure in the two towns supplying estimated 6000 customers. Its medium voltage network is comprised of approximately 35 kilometers of overhead line and 3 kilometers of underground cable feeding 85 low voltage minisubs and transformers.
The Electricity Section under the Infrastructure Planning and Development department is responsible for the electrical network and is situated in the municipal main offices in Maclear.

2. Project Objective and Description

2.1. Objectives

ELM has identified an urgent need to update the existing electrical network to meet the current and future demands, quantify and identify all of its electrical network assets.

a) By designing networks that are:
   - capable of compliance with probable demands with safety and reliability, whilst maintaining the voltage within the prescribed limits
   - compliant to NERSA and SABS applicable standards

b) Acquire services of a ECSA registered engineer for a period of 12 months to
   - approve further additions and/or alteration of the electricity ditribution network designs
   - Mentor trainees and employees of the electrical service section from time to time as when required

c) Unique identification and labelling of all electricity distribution network assests (substaion, mv and lv network)

2.2. Description of Works

2.2.1. Electricity Distribution Network Design

a) Evaluate existing electricity distribution network design, reports and as-built drawings in compliance with all applicable standards and make required updates/corrections (economical; safety & reliability)

b) Do load flow studies on the electricity distribution network using Reticmaster

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2.2.2. Identify and Quantify Network Assets

a) Systematical label all network assets
b) Group, zone and quantify network assets

2.2.3. Single Line Diagrams

a) Draw single line diagram of both Maclear and Ugie town Networks
b) Draw Maclear substation single line diagram

2.2.4. ECSA registered Engineer

a) For a period of twelve (12) months provide ECSA accredited electrical engineering service for:
   i. Upon request approve additions and/or alteration on electrical network designs
   ii. Upon request provide mentoring and on job training to trainees and employees of the electrical service section
   iii. Assess and sign off training for Universty of Technology students
   iv. Mentor and sign off candidates for professional registration activities

Produce drawings that are in line with Microstation and Rectic Master in terms of Color, Layer and Levels.

2.2.5. Network Size (estimates)

Ugie Town

Equipment Description	Unit	Quantity
Minisubs 11KV	ea	3
Minisubs 22KV	ea	2
RMU 22KV	ea	2
Transformers 22KV	ea	37
MV Underground Cable	Km	1,64
MV Overhead Line	km	13,4

Maclear Town

Equipment Description	Unit	Quantity
Minisubs 11KV	ea	4
Transformers 11KV	ea	41
MV Underground Cable	Km	1,150
MV Overhead Line	km	18
Substaion 22kv – 11kv	ea	1
Substation Transformer 5mva	ea	2
Substation Feeders 11kv	ea	4