

	REPORT Technical Returnables	Technology
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Title: Technical Tender Evaluation Criteria for Meter Audits/Testing and Meter Upgrades, Change Outs and Meter Move for Various Sites in Limlanga Cluster-Limpopo & Mpumalanga	Unique Identifier:	SI-LOU- 639
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1. INTRODUCTION

The distribution business services customers that in turn provide revenue to Eskom in the form of electricity sales. There is however, challenges faced by Eskom with factors such as;

- non-payment by electricity users and electricity theft by legally connected customers,
- bypassing or tampering meters,
- Customers not paying their electricity bills and illegally re-connected customers.

Internal resources are constrained due to their daily activities and they are also requested to do meter audits on customers, however this is not effective due to priority of tasks and duties that takes precedence above meter auditing e.g. line faults, power outages etc.

This contract seeks to address these challenges as to improve revenue collection by appointing contractors to perform meter auditing.

2. SUPPORTING CLAUSES

2.1 SCOPE

The document details the scope of works for the tender, the technical requirements and evaluation criteria.

2.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems.
- [2] ISO 18001 OHSAS

2.2.2 Informative

- [3] 240-55246054 Commissioning And Maintenance Of Metering Installations (LPU LV)
- [4] 240-101754967 Commissioning And Maintenance Of Small Power User (SPU) Metering
- [5] 240-129252968 Installation Of Prepaid Meters
- [6] 240-99015553 Changing A Non-Metallic Pillar Box Housing
- [7] 240-99015573 Connecting/Disconnecting Prepaid Customers
- [8] 240-99015581 Energising A Pole-Mounted Service Distribution Box
- [9] 240-99015603 Installation/Removal Of A Cable In An Energised Distribution Pillar Box And Livening Up/Disconnecting Of A Customer

2.3 DEFINITIONS

Team: In this document a team refers to one authorised person and their assistant(s) if they will be working with an assistant(s).

2.4 DISCLOSURE CLASSIFICATION

Controlled disclosure: Information is really available to Eskom employees (internal use). Information may also be accessed by or disclosed to third parties with specific authorisation or consent.

2.5 ABBREVIATIONS

Abbreviation	Description
DoL	Department of Labour
FAS	Fall Arrest System
LIMLANGA	LIMPOPO and MPUMALANGA CLUSTER
LV	Low Voltage
LOU	Limpopo Operating Unit
PDE	Power Delivery Engineering (old DT- Distribution Technology)
PPE	Personal Protective Clothing
SI	Standards Implementation
SPU	Small Power Users
STS	Standard Transfer Specification
PPU	Prepaid Users

2.6 RELATED/SUPPORTING DOCUMENTS

As per Normative and Informative of all documents listed

2.7 SCOPE OF WORKS

The Provision of services for PPU & SPU meter audits, faulty meter replacement, disconnections of tempered installations and reconnection thereof in Limlanga Cluster - Mpumalanga comprising of two main activities as summarized in the subsections below.

All work shall be performed in accordance with the relevant Eskom and OEM (Original equipment manufacturer) Standards/Procedures/Task Manuals pertaining to the tasks to be performed and scope of work of the contract.

2.7.1 ACTIVITY 1 - Pre-Paid (PPU) Meters

a) Audit meter by performing meter trip test, seal all meters that has passed trip test if found not sealed and capture field data using own handheld Units (HHU) for a 1Ø & 3Ø supply point

b) Disconnect supply point if meter found bypassed / tampered or illegally connected and issue tamper fee for 1Ø & 3Ø supply point using Remedial Fee forms and take 2 photos clearly indicating the form of bypassed / tampered or illegally connected meter.

c) In cases where the auditor suspects ghost units are being purchased, then the auditor must take clear photos of the meter number, units and installation pole number and report to Eskom to do further investigation.

- The photograph must be submitted to the relevant *ESKOM'S* office within the agreed timeline schedule.

- Note: *ESKOM* will not pay for the activity until all the documentation and photos are submitted.
- The photograph must have time and date stamp (Watermark). *No photographs will be accepted without a time and date stamp* NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.
- d) Perform meter change-out for a Faulty Single phase or Poly phase meter
- e) Coding of an STS meter to the new Supply Group Code
- f) Capture metering and customer data for all points not on Eskom's systems

2.7.2 ACTIVITY 2 - CONVENTIONAL (SPU) METERS

- a) Data collected in premises with faulty meter points that could not be tested using meter verifier or due to no supply must be specified in the report as to being unable to perform the test due to no supply.
- b) If the meter readings are not clearly visible it should be specified in the report to be submitted.
- c) Perform meter change-out for a Faulty Single phase or Polyphase meter.
- d) Audit meter and capture field data, perform meter accuracy test, observe and capture remarks using own handheld Unit (HHU) for a 1Ø phase supply point.
- e) Audit meter and capture field data, perform meter accuracy test, observe and capture remarks using own handheld Unit (HHU) for a 3Ø phase supply point.
- f) Disconnect supply point if meter found bypassed / tampered by removing meter circuit breaker (Main circuit breaker) and its jumper cable for a 1Ø supply and take photos.
- g) Disconnect supply point if meter found bypassed / tampered by removing meter/s circuit breakers and its jumper cables for a 3Ø supply and take photos.
- *Photos to be taken of all installations visited shall be clear and include; complete installation, Pole number, meter number, close-up photo of the components disconnected, tampered or bypassed.*
- *The photograph must be submitted to the relevant ESKOM'S office within the agreed timeline schedule.*
- Note: *ESKOM* will not pay for the activity until all the documentation and photos are submitted.
- The photograph must have time and date stamp (Watermark). *No photographs will be accepted without a time and date stamp* NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.

2.8 (PPU) METER MOVES, CHANGE OUTS, UPGRADES, AND NEW INSTALLATION

HOUSE CONNECTION

- Overhead Connection
- Underground Connection

Sundry Item

- SHACK POLES (Incl. Excavation)
- 4&5m Wood Shack Pole
- 7m Wood Shack Pole

- 9m shack pole (including excavation)
- Extra over for hard holes 4 & 5m
- Extra over for hard holes 7m
- Extra over for hard holes 9m
- Trenching for cable: Soft
- Trenching for cable: Rock
- Pole top box installation
- Store and site office (fixit) 0-200
- 63A Morsdorf Breaker
- Change Faulty meter
- Installation of external ECU box

2.9 SPU CONNECTIONS

- Meter box single phase 16KVA installation including cable above ground level
- Meter box three phase 25 to 100kVA installation including cable above ground level
- Poly phase meter box 100kVA installation including cable above ground level
- Lay cables including terminations
- Cables laid in ground 16 x 2
- Cables laid in ground 25 x 4
- Cables laid in ground 35 x 4
- Cables laid in ground 70 x 4
- Excavate in soft and/or Rock material for trench (600mm) incl. backfilling
- Installation of Three or Single phase meters

Note 1: Refer to ANNEXURE D for the detailed scope of Works.

3. TECHNICAL EVALUATION

The evaluation will be conducted in Four (4) consecutive stages, i.e. Stage 1: Mandatory requirements, Stage 2: Functional requirements evaluation, Stage 3: Site Assessments (if required) and Stage 4: Contractual requirements. The assessment will follow a documented supplier capability and capacity assessment criteria as shown in Tables 1 to 6. These criteria are intended to assess the technical capabilities of the supplier and the service offered for tenderer to ensure it meets the tender requirements:

3.1 TECHNICAL EVALUATION STAGE 1: MANDATORY REQUIREMENTS

Table 1 below lists the mandatory requirements that must be submitted by the tenderer: Please note that if any of the requested documentation is omitted (i.e. not submitted), the tender application shall be discarded / disqualified without requesting tenderer/s to submit outstanding documentation/s

The evaluator shall indicate with a **Yes / No** whether the requirement is met or not. Once the mandatory requirements are satisfied through an evaluation conducted by the evaluator, the technical evaluation for mandatory evidence will proceed.

Table 1: Mandatory Requirements

	Criteria	Evidence	Minimum Requirement	Min Quantity
1	Letter of Registration as Electrical Contractor (Department of Labour-DoL) with an Installation Electrician (IE) or Master Installation Electrician (MIE).	Valid (at the time of submission) Department of Labour Certificate (Letter of Registration) in your Company Name.	The DoL Letter must be in company name or company director's name and the registration must be valid. In case of a new application then submit proof of application. If the letter has expired, then submit poof of renewal request with the expired letter.	1

3.2 TECHNICAL EVALUATION STAGE 2: FUNCTIONAL REQUIREMENTS

This will be a desktop evaluation of the functional requirements **ONLY**. Contractual requirements submitted will not influence the results of Stage 2 evaluation.

The table below shows the high-level explanation / rational behind the technical requirements and the weightings. Suppliers/Tenderers need to obtain a minimum threshold of **90%** to be technically recommended to proceed to stage 3.

Table 2: Functional Requirements

Item No.	Description	Weight	Notes on the item	Evidence
1	Training Requirements for a Key Person or Team Leader.	40%	Certificates to be certified and the certification must be valid i.e. not older than three months from tender closing date.	Valid Certificates as per Table 3 below.
2	Tools and equipment	40%	These tools are minimum requirements and the contractor is expected to own these if they are in the LV electrical business or if the company plans to be in this business. No Hiring will be accepted.	Tools list as per Table 4 below.
3	Bakkie (fit for the job)	20%	This vehicle is sufficient to carry the required tools and transport personnel. Hiring with acceptable proof from a bona fide vehicle hiring company will be accepted. Must be a bakkie capable of handling extreme off-road terrain.	Vehicle as per Table 5 and Copy of vehicle Registration Certificates.

3.2.1 Training Requirements for a Key Person or Team Leader

There are two options that a tenderer needs to comply with i.e. Option 1: Requirements of the contractor is fully authorised in any Eskom Distribution Clusters or option 2: Requirements if the contractor is not authorized in any Eskom Distribution Clusters.

Table 3: Training Requirements for a Key Person

Item No.	Criteria	Evidence	Evidence Notes	Min. Required	Max. score
OPTION 1 (IF FULLY AUTHORISED IN ANY ESKOM DISTRIBUTION CLUSTER)					
1	Low Voltage Authorization	Authorization certificate	- Certificate must be certified and not older than three months from the tender closing date. - Certificate must be valid at tender closing date.	1	20
2	Working from heights Training	Working from heights Training Certificate.	- Certificate must be certified and not older than three months from the tender closing date. - Certificate must be valid at tender closing date.	1	10
3	Metering Training (e.g. Prepaid meters, Conventional / magnetic meters)	Metering Training Certificate (e.g. Prepaid meters, Conventional / magnetic meters)	- Certificate must be certified and not older than three months from the tender closing date. - Certificate must be valid at tender closing date.	1	10
	TOTAL WEIGHT				40
The final score for training requirements for a key person or team leader will be calculated by the formula below: $Final\ Score = \frac{Tenderer\ Score}{Total\ points} \times 40\%$					
OPTION 2 (IF NOT AUTHORISED IN ANY ESKOM DISTRIBUTION CLUSTER)					

Item No.	Criteria	Evidence	Evidence Notes	Min. Required	Max. score	
1	Pre-authorization training.	Pre-authorization training certificates: • LV Regulations • LV Operating • Basic Electric or N2 in Electrical Engineering • Test Instrument • Supervision • HIRA or Risk Assessment. • First Aid level 2 • Fire Fighting	• Certificate must be certified and not older than three months from the tender closing date. • Certificate must be valid at tender closing date. • Stated certificates should be in the same name of the employee working for the company. • Applicants are required to submit all stated certificates to score full points. In case of any missing certificate/s applicants will lose all the points. • Only the certificates from Eskom accredited service providers will be accepted.	1 person	20	
2	Working from heights Training	Working from heights Training Certificate.	• Certificate must be certified and not older than three months from the tender closing date. • Certificate must be valid at tender closing date.	1	10	
3	Metering Training (e.g. Prepaid meters, Conventional / magnetic meters)	Metering Training Certificate (e.g. Prepaid meters, Conventional / magnetic meters)	• Certificate must be certified and not older than three months from the tender closing date. • Certificate must be valid at tender closing date.	1	10	
	TOTAL WEIGHT					40
The final score for training requirements for a key person or team leader will be calculated by the formula below:						
$Final\ Score = \frac{Tenderer\ Score}{Total\ Points} \times 40\%$						

3.2.2 Tools and equipment.

- Tenderers must submit calibration certificates as shown below (From item no. 6 to 8 also Inspection record and testing record for item no. 9) in order to score full points on desktop evaluation(Stage.2), In case of a new tool or equipment, then a copy of manufacturers test report is required.
- It should be noted that all tools & equipment (From item 1 to 12) shall also be verified during site assessment (Stage 3).

Table 4: Tools and equipment

Item	Tool	Evidence Required	Comments	Min. Qty	Stage.2 Score	Stage.3 Score
1.	Electrical Tool box	To be verified during site assessments	Owned	1		2.5
2.	Mechanical Tool box	To be verified during site assessments	Owned	1		2.5
3.	1000V Insulated LV Tools (E.g. screwdrivers, pliers etc.)	To be verified during site assessments	Owned	1		2.5
4.	Insulating Rubber Gloves, Class 0 , with r.m.s rating of at least 1000 V (SANS 60903)	To be verified during site assessments	Owned	1 pairs		2.5
5.	Approved Face shield (ASTM F2178, GS-ET 29, EN 166 or ANSI Z 87.1.)	To be verified during site assessments	Owned	1		2.5
6.	Multimeter or Tong tester (include volts & current)	- Copy of calibration certificate is required. In case of new tool or equipment, then copy of manufacturers test report is required. - To be verified during site assessments	Owned	1	10	5
7.	Earth leakage Tester	Copy of calibration certificate is required. In case of new tool or equipment, then copy of manufacturers	Owned	1	10	5

Item	Tool	Evidence Required	Comments	Min. Qty	Stage.2 Score	Stage.3 Score
		test report is required. To be verified during site assessments.				
8.	Phase rotation Tester	- Copy of calibration certificate is required. In case of new tool or equipment, then copy of manufacturers test report is required. - To be verified during site assessments	Owned	1	10	5
9.	Fiberglass Ladder	- Inspection record and testing record. - To be verified during site assessments	Owned	1	10	5
10.	Complete FAS (Fall Arrest System)	To be verified during site assessments	Owned	1 pair/set		2.5
11.	Meter verification instrument(s) e.g. Hair dryer or Load Box	To be verified during site assessments	Owned	1		2.5
12.	Bolt cutters	To be verified during site assessments	Owned	1		2.5
	TOTAL WEIGHT				40	40

The final score for tools and equipment will be calculated by the formula below:

$$Final\ Score = \frac{Tenderer\ Score}{Total\ Points} \times 40\%$$

3.2.3 Vehicle

- a) Tenderers must submit Full Licence document or Proof of hiring contract / pre-approved letter from Bona Fide Vehicle Hire(As shown below on Table 5)

Table 5: Vehicle

Item No.	VECHICLE - OWNED OR HIRED				Max score
	Criteria	Evidence	Evidence Notes	Min Req.	
1	Bakkie (fit for the job)	• Proof of ownership or Proof of hiring contract / pre-approved letter	• Full Licence document showing company / owner's information ; • Licence document must be certified and not older than 3 months from the tender closing date. • Proof of hiring contract / pre-approved letter from Bona Fide Vehicle Hire Companies must be submitted and it must be signed by both parties (leaser and lessee) • A tenderer is not allowed to hire from another Electrical construction Company NB: Must be a bakkie capable of handling extreme off-road terrain.	1 Bakkie	20
	IF HIRED THE TOTAL SCORE SHALL BE				10
	IF OWNED THE TOTAL SCORE SHALL BE				20
	TOTAL WEIGHT				20
The final score for vehicles will be calculated by the formula below:					
$Final\ Score = \frac{Tenderer\ Score}{Total\ Points} \times 20\%$					

3.3 TECHNICAL EVALUATION STAGE 3: SITE ASSESSMENTS

Eskom shall conduct Site Assessments of Vehicles, Tools and Equipment requirements. The verification will take place at central site. Eskom officials will contact tenderers in order to arrange for the site visit. NB, a threshold of 90% applies to all three stages of evaluation

- Owned vehicle or Proof of hiring contract / pre-approved letter from Bona Fide Vehicle Hire company shall be verified.
- Tools and Equipment shall be verified using the scores stated on table 4(Column; stage.3 score) above.

3.4 CONTRACTUAL REQUIREMENTS

Contractual requirement will not be evaluated during desktop evaluations but will become a requirement before contract award. These requirements have been identified as important for the scope of SPU and PPU meter audits/Testing and Meter Upgrades, Change Outs and Meter Move.

Table 6: Contractual Requirements

Item No.	Description	Weight	Notes on the item
1	PDE Website Access (Eskom Standards)	N/A	Companies that have applied for access or have access to the Eskom standards website provide assurance that the contractors will have access to the relevant standards and task manuals to execute the scope.
2	Meter Calibration Tool (Metes 32)	N/A	Copy of calibration certificate is required. In case of a new tool or equipment, then copy of manufacturers test report is required.

4. AUTHORISATION

This document has been seen and accepted by:

Name & Surname	Designation
Nozipho Masakona	Snr Manager M &O Acting (LOU)
Sthembiso Kunene	Snr Manager M &O Acting (MOU)
Meerashni Ramparshad	Middle Specialised Maintenance and Support Manager Acting (LOU)
Vusi Cindi	Middle Specialised Maintenance and Support Manager (MOU)
Blessing Mbatha	Middle Manager Smart Metering (MOU)
Thuso Mphahlele	Manager Technical Support LOU (Acting)
Tebogo Khosana	Manager Technical Support (MOU)
Mmedi Motaung	LimLanga Cluster SI Manager

5. REVISIONS

Date	Rev.	Compiler	Remarks
September 2025	2	Sello Lekalakala	- Changed the threshold percentage - Added the scoring methodology
August 2022	1	Sello Lekalakala	- First issue and it is applicable to LimLanga Cluster

6. DEVELOPMENT TEAM

The following people were involved in the development of this document.

- Sello Lekalakala
- Hennie Van Der Westhuizen
- Lenny Dlakude

7. ACKNOWLEDGEMENTS

- To all colleagues who contributed to the content of this document

8. ANNEXURE A: LIST OF USEFUL PDE STANDARAS

The user must always download the latest versions of the standards listed below and other that the tenderer may require.

- [1] 240-66129387,Joining LV conductor and aerial bundle conductor (dead work)
- [2] 240-66129433,Removing the meter during cut-off (dead work)
- [3] 240-66129501,Replacement of circuit breaker in the mini substation (dead work)
- [4] 240-66129533Replacement of circuit breaker on pole mounted service distribution box (dead work)
- [5] 240-66129293,Replacement of DIN rail prepaid meter, service distribution box, surge arrester and MCB (dead work)
- [6] 240-66129573,Replacement of fuse base / holder (dead work)
- [7] 240-61129617,Replacement of pole mounted service distribution box (dead work)
- [8] 240-66129475,Replacement of the low voltage cables (dead work)
- [9] 240-66129601,Replacement of the pillar box / stubby / meter box (dead work)
- [10] 240-99015573, Connecting/Disconnecting Prepaid Customers
- [11] 240-170000357,Live work (Disconnecting a customer)
- [12] 240-129252968,Installation of prepaid meters
- [13] 240-99015780, street light installation
- [14] 240-99015603, installation/removal of a cable in an energised distribution pillar box and livening up/disconnecting of a customer
- [15] 240-84242882, Low Voltage Live Work: Replacement of Circuit-Breaker
- [16] 240-99015625, Replacement of a Circuit-Breaker in an Energised Distribution Pillar Box/Meter Box
- [17] 240-99015553, Changing a Non-Metallic Pillar Box Housing
- [18] 240-84242748,Low voltage-live work: installing/replacing LV fuse components
- [19] 240-99015629, Replacing of a Fuse Base and Holder/Carrier/Mosdorfer
- [20] 240-100574801, Replacing of Jumpers Between Conductors and Pole-Mounted Fuses or MCB's
- [21] 240-99015581, Energising a Pole-Mounted Service Distribution Box
- [22] 240-100575557,Replacing of a connector on a live bare conductor
- [23] 240-134636675,Energy meter kwh reading and kVA reading (Indigo Polyphase Meter Cl.2)
- [24] 240-129277419,Installing and replacing of the triple fuse unit under live condition
- [25] 240-100176175,MCB's and LV fuses in mini-sub/brick subs operating
- [26] 240-41751000,eplacement of surge arrester, circuit breaker, measuring unit, service cable for split meters on the pole top box
- [27] 240-82789419, Replacement of ED's and ECU's Under Live Conditions.
- [28] 240-70413681, Portfolio Of Evidence For Authorisation
- [29] 240-114967625, Operating Regulations For High Voltage Systems
- [30] 240-61523882, LV Operating Regulations

9. ANNEXURE D: DETAILED SCOPE OF WORKS / WORK SPECIFICATIONS

The Provision for PPU & SPU meter audits, meter replacement, disconnections and reconnections services in LimLanga (Limpopo and Mpumalanga)

Summary List of ACTIVITIES:

ACTIVITY 1:
PRE-PAID (PPU) METERS
Audit meter by performing meter trip test, seal all meters that has passed trip test if found not sealed and capture field data using own handheld Units (HHU) for a 1Ø & 3Ø supply point
Disconnect supply point if meter found bypassed / tampered or illegally connection and issue tamper fee for 1Ø & 3Ø supply point using Remedial Fee forms and take 2 photos clearly indicating the form of tampering.
- The photograph must be submitted to the relevant <i>ESKOM'S</i> office within the agreed timeline schedule. - Note: <i>ESKOM</i> will not pay for the activity until all the documentation and photos are submitted. - The photograph must have time and date stamp (Watermark). <i>No photographs will be accepted without a time and date stamp</i> NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.
Perform meter change-out for a Faulty Single phase or Poly phase meter
Coding of an STS meter to the new Supply Group Code
Capture metering and customer data for all points not on Eskom's systems

ACTIVITY 2:
CONVENTIONAL (SPU) METERS
Data collected in premises with faulty meter points that could not be tested using meter verifier or due to no supply
Perform meter change-out for a Faulty Single phase or Polyphase meter
Audit meter and capture field data, perform meter accuracy test, observe and capture remarks using own handheld Unit (HHU) for a 1Ø phase supply point
Audit meter and capture field data, perform meter accuracy test, observe and capture remarks using own handheld Unit (HHU) for a 3Ø phase supply point
Disconnect supply point if meter found bypassed / tampered by removing meter circuit breaker and its jumper cable for a 1Ø supply and take 2 photos
Disconnect supply point if meter found bypassed / tampered by removing meter/s circuit breakers and its jumper cables for a 3Ø supply and take 2 photos

- The photograph must be submitted to the relevant *ESKOM'S* office within the agreed timeline schedule.
- Note: *ESKOM* will not pay for the activity until all the documentation and photos are submitted.
- The photograph must have time and date stamp (Watermark). *No photographs will be accepted without a time and date stamp* NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.

D1. The provision of the PPU meter audit service for LOU as follows:

- a) Auditing, Testing and capturing field data, using own handheld units.
 - b) Replacing and Testing all STS Faulty Prepaid Meters and Capture Data.
 - c) Testing and Replacing all NON STS meters and capture data.
 - d) Testing and Replacing all STS Magnetic meters, only if found to be faulty and capture data.
 - e) Disconnecting all by-passed/tampered meters and issue tamper notice
 - f) Reconnecting if instructed by Project Manager
 - g) Collect MV Pole number with supporting 2 x photographs and submitting to Project Manager for verifications and approval before Audits.
- The photograph must be submitted to the relevant *ESKOM'S* office within the agreed timeline schedule.
 - Note: *ESKOM* will not pay for the activity until all the documentation and photos are submitted.
 - The photograph must have time and date stamp (Watermark). *No photographs will be accepted without a time and date stamp* NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.
- h) Seal all audited meters found not sealed/ tampered/replaced faulty
 - i) If No Access at Home, take as much data as possible and capture co-ordinates for revisit.
 - j) Remove all illegal installations and capture records.

D2. The provision of the Conventional meter (SPU) audit service for LOU as follows:

- a) Audit and Capture Field Data, Perform meter accuracy test, Observe and Capture Remarks using own Handheld Unit (Rural/Urban).
- b) Change-out/ of Single phase meter due to Faulty / Tampered. (Rural/Urban).
- c) Change-out of 2 x Single Phase meter due to Faulty / Tampered. (Rural/Urban).
- d) Change-out of 3 x Single Phase meter due to Faulty / Tampered. (Rural/Urban)
- e) Change-out up to 50kva - Polyphase meter 125amp due to Faulty / Tampered. (Rural
- f) Change-out of Single Polyphase meter 160 amp due to Faulty / Tampered. (Rural)
- g) Change-out of 3 x Single Phase meters and convert to Polyphase meter due to Faulty / Tampered. (Rural/Urban)
- h) Disconnect/Reconnect All Bypassed/Tampered meters (CB & Seal) and Issue Tamper Fine & take 2 photo's (Rural/Urban)
 - The photograph must be submitted to the relevant *ESKOM'S* office within the agreed timeline schedule.
 - Note: *ESKOM* will not pay for the activity until all the documentation and photos are submitted.
 - The photograph must have time and date stamp (Watermark). *No photographs will be accepted without a time and date stamp* NB: This time and date stamp must not be imprinted on any photo in the form of digital editing (Photoshop) and stationary or rubber stamp.
- i) Replacing and Testing all faulty Conventional Meters if instructed to do so by Project Manager

D3. SPU Scope of work back to back Audit

The following activities will be required.

- a) A systematic audit of all conventional electricity supply points per network breaker, per CNC, per Area in the sequence as defined by the Eskom Project team. The audits will constitute capturing of all relevant data on a Trimble handheld G.P.S. device with a uploaded data sheet. At the same time a meter audit will take place by using a Metes 32 meter calibration verifier. The meter accuracy will be saved for download as part of the data download. A download from the Trimble data logger will be used to create a control sheet for use by the project team to manage each and every supply point from audit to close out.

- b) In the event that a meter is tested and fails the prescribed limit the meter is to be replaced .new meter data to be captured on the trimble for project team to update cc & b system. Old or defective meter to be wrapped in bubble wrap and labelled and be returned to project team in order to be sent for testing.
- c) Capturing the correct meter ID's and matching these with the meter badge numbers in CC&B.
- d) These will also be matched to all installations numbers. Once clarification has been obtained ID' all meter boxes will be numbered using a permanent marker both inside the meter box and outside.
- e) GPS co-ordinate (Eskom format to be specified) to be recorded at every supply point making follow up easier- this is also a requirement to load onto CC&B.
- f) Where installations are identified that are using electricity but have no meter the contractor is to install meters and compile a list of these and submit to the revenue recovery team for their action. (Update data in CC&B).
- g) Where installations are identified that are using electricity but are not reflected on Eskom System the contractor is to assess meters and compile a list of these and submit to the Customer Services Department for their action. (Update data in CC&B).
- h) The customer must then be disconnected.
- i) Where installations are identified that are using electricity but are reflected on Eskom system as inactive. The contractor to assess meters, seal the meter and disconnect the customer with an advise informing him to contact the relevant Customer Service Department in order to pay his outstanding fees and get reconnected.
- j) Identifying all distribution electrical equipment that needs to be repaired or replaced (meter boxes cables, junction boxes etc.) Exact GPS co-ordinate to be provided. Identifying all electrical equipment where the Public could come into in advertent contact with electricity, e.g. Where locks on equipment are missing or covers are not in place. This inspection would be done in compliance with the Machinery Occupational Health and Safety Act.
- k) Recording full details of tampered meters as defined by Eskom
- l) The resealing of all meters and meter terminal covers in the format as required and directed by Eskom. Locks to be replaced by contractor. Each meter terminal meter cover will be sealed and that seal number will be recorded in CC&B with a view to prosecution. (Eskom provide seals as per LPU seals) Compiling a list of all faulty/damaged electrical meters. All dangerous installations on the house distribution boxes will also be reported on. Draw required number of meters and change out all faulty meters using applicable "CHANGE OUT" meter forms and hand these to Customer Services Department for input into CC&B.

D4. CONTRACTOR'S RESPONSIBILITIES

- a) Contractor needs to utilise their own GPS and Data recording information.
- b) Contractor to cover all travel and accommodation expenses.

- c) The Eskom information forms as supplied should be delivered to Eskom as defined on a weekly basis. The contractor will contact Programme Manager should any technical or administration assistance be required.
- d) The Areas identified needs to be audited, including every point of supply of conventional metering, for small power users (SPU) within the LimLanga (Limpopo and Mpumalanga) boundaries.
- e) Every house needs to be visited and customer data gathered per the prescribed form as drawn up by Eskom. Customers that have supply by no meter installed needs to be identified and indicated during the audit.
- f) Every meter needs to be recorded and data will be reconciled to that of CC&B, the debtors system.
- g) Those customers not on CC&B will be recorded and information given through to the area as far as SPU customers are concerned and LPU customers to the Pricing Department for further investigation.
- h) A "First Line" maintenance inspection needs to take place covering the conventional metering Infrastructure. All the faults/deviations needs to be recorded and GPS co-ordinates taken. Faulty/ tampered meters needs to be changed out by the contractor and new meters installed.
- i) The audit will result in the "LEGITIMISING" of the customers where there are no relationships with Eskom and recalculation of revenue where meter tampering has been identified.
- j) Customer supply and debt agreements will be drawn up for the Area concerned and will need to be distributed to each customer for signature. All customers, where possible, will be approached by the contractor team/area and pricing personnel and discussions/agreements finalised regarding the legalising of the supply.
- k) The process will be monitored by the dedicated Eskom personnel who in turn will work with the Eskom Project Manager to handle queries regarding applications etc.
- l) Any breakdown in communication between Eskom and the customer regarding the signing of the Agreement will result in "HARD DISCONNECTIONS".

Note:

- There will be customers that will try and avoid the contractor/Eskom personnel but they will be Identified and disconnected where necessary.
- All the above interventions need to be recorded by the contractor and two weekly reports needs to be given to Eskom detailing the progress. At the end of the project a full status report needs to be given to Eskom.

D5. SPU / Conventional audits: Residential and Non Residential

Attributes to be captured:

Supplier Details

- Audit date
- Company
- Auditor

D5.1. Customer Details

- Account number
- Business / Customer name
- Business / Customer Telephone number
- Postal/ Physical Address
- Customer ID Number
- Area
- CNC
- Type of supply i.e. Pump, house etc.

D5.2. Technical Data

- Installation number/ Pole number
- Meter serial number / Badge number
- Class of meter (Number of revs/ Kwh)
- Meter makes (type of meter)
- Meter constant (K value)
- CT and VT ratio
- Pole number
- Circuit Breaker size
- Transformer size
- Sub 3-5 meter accurate GPS co-ordinate
- Single or three phase supply
- Poly or single phase meters.
- Number of dials.
- Current Meter reading/ s
- MB sealed on sealed at departure
- Any visible signs of tamper
- Capture Existing seal number on arrival if not seal and capture new seal number –
- Meter cover sealed
- Terminal cover sealed
- CB on & sealed (As not all CB can be sealed, it is imperative to concentrate on ensuring the meter boxes are locked.)
- CB off & sealed

D6. Meter Test Equipment (SPU)

Use electronic energy measurement test equipment as prescribed by client:

- Tong tester (include volts & current)
- Appropriate tool kits up to 1000 volts
- Hairdryer
- Meter calibration tool (Metes 32)
- Stop watch
- Bolt cutters

D7. Meter Test Process (SPU)

All meters should be approached with safety as the ultimate priority

- a) Open the meter box and investigate wire configuration to ensure safe of leakage
- b) Check for movement of meter dial and meter disc for rotation
- c) Connect tong tester to a phase and register the amp reading
- d) If load insufficient (low), load injection must be carried out to improve the results
- e) Request customer to "switch on" appliances, alternatively connect a hairdryer
- f) At all times check load to ensure that the load is consistent. Variable load will distort result.
- g) Once the load is sufficient, perform a 1 revolution or a 5 revolution test.
- h) Ensure that a stop watch is used to collect timing & ensure all times are recorded in seconds.

D8. Installation Condition

- a) Check and report on Circuit Breaker (CB) size i.e. 40Amp, 80Amp etc. If CB is inoperative, damaged or incorrect size (table to be supplied), Check if all mcbs are set (i.e. Not tripped).
- b) Where applicable check and report on Current Transformers (cts). CT ratio, CT polarities, damaged or incorrect size (table to be supplied)
- c) Record instances of blown fuses and if red lights are not working
- d) Check and record all phase voltages on the meter. Check the polarity of the voltages
- e) Check and record all phase currents on the meter
- f) Check Cable size (Eskom and Customer) i.e. 2.5 mm, 16mm. Is the Customer cable connected to the load?
- g) Perform safety checks. Check for exposed wiring and terminals. Check for appropriate danger signage
- h) Earthing to be checked. Pay particular attention to the metal frame of the box and ensure that this is well earthed. Check the integrity of all incoming cables and repair any damage thereto
- i) Replace and record all nonstandard seals using ESKOM numbered sealing pliers or tool-less seals.
- j) Does the Installation need maintenance i.e. Hinges, door, locking mechanism
- k) All unsafe conditions to be reported to ESKOM within 48 hours using process specified

- l) Where POD is in such a bad state it requires complete refurbishment, this must be recorded so that Eskom can take photographs of the POD

D9. Data submission and data format

All the above mentioned information should be captured electronically by means of a hand held device, to eliminate all fraudulent data capturing and must be submitted every Monday of the working week for verification on the Eskom system.

The data should be downloaded into a database. Data to be provided in a format containing all the attributes captured in the format provided by the client. The data base should be user friendly; in order to find meter installations with ease, viewing any and all data should also be a seamless process. Lastly, any alteration to the database should be possible at any point to satisfy the need of the client (Eskom).

D10. PPU audits: Residential and Non - Residential

Attributes to be captured:

Supplier Details

Audit date, Company, Auditor

Customer Details

- Account number
- Business / Customer name
- Business / Customer Telephone number
- Postal/ Physical Address
- Customer ID Number
- Area
- CNC
- Type of supply i.e. Pump, house etc.

D10.1. Technical Data

- Installation number/ Pole number
- Meter serial number / Badge number
- Class of meter (Number of revs/ Kwh)
- Meter makes (type of meter)
- Transformer size
- Sub 3-5 meter accurate GPS co-ordinate
- Any visible signs of tamper
- Capture Existing seal number on arrival if not seal and capture new seal number

D10.2. Meter Test Equipment (PPU)

Use test card or trip test number supplied to test meters as prescribed by client:

D10.3. Meter Test Process (PPU)

- All meters should be approached with safety as the ultimate priority
- Perform visual inspection
- Request customer to “switch on” appliances

D10.4. Installation Condition

- a) Check and report on Circuit Breaker (CB) condition.
- b) Perform safety checks. Check for exposed wiring and terminals. Check for appropriate danger signage
- c) Earthing to be checked. Pay particular attention to the metal frame of the box and ensure that this is well earthed. Check the integrity of all incoming cables and repair any damage thereto
- d) Replace and record all nonstandard seals using ESKOM numbered sealing pliers or tool-less seals.
- e) All unsafe conditions to be reported to ESKOM within 48 hours using process specified
- f) Where POD is in such a bad state it requires complete refurbishment, this must be recorded so that Eskom can take photographs of the POD
- g) Data submission and data format
- h) All the above mentioned information should be captured electronically by means of a recommended hand held device, to eliminate all fraudulent data capturing and must be submitted every Monday of the working week for verification on the Eskom system.

The data should be downloaded into a database. Data to be provided in a format containing all the attributes captured in the format provided by the client. The data base should be user friendly; in order to find meter installations with ease, viewing any and all data should also be a seamless process. Lastly, any alteration to the database should be possible at any point to satisfy the need of the client (Eskom).