

# THE MSUNDUZI MUNICIPALITY



HEAD: SUPPLY CHAIN MANAGEMENT  
MRS D. N. GAMBU

333 Church Street, Private Bag X205, Pietermaritzburg, 3200  
Telephone No. 033 – 392 2597

## **SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

### **SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

Tenderer's Name:																		
Postal Address:																		
Tel. No.										Cell. No.								
Contact Person:																		
E Mail Address:																		
CSD NUMBER : MAAA										B-BBEE STATUS LEVEL								

Tenders contained in sealed envelopes and marked with “**SS E8 OF 2024**” and the **Contract Description** must be placed in the Tender Box located at the Msunduzi Municipality’s Central Stores, 2 Abattoir Road (off Kershaw Street), Pietermaritzburg, 3201 (**coordinates - 29.6126297;30.3610014**), not later than **12h00 on Monday, 25 November 2024**, when they will be publicly opened. Only tenders placed in the Tender Box shall be accepted.

## THE MSUNDUZI MUNICIPALITY

### TENDER SUBMISSION CHECKLIST

The Checklist below is attached hereto to assist Tenderers with the completion of the tender document. Tenderers are required to **TICK** the relevant boxes for verification purposes. Where information is not applicable to the tender, the symbols **N/A** must be inserted in the space provided.

It must be noted that the Council shall not be held liable for any loss or damage incurred to the Tenderer should the Tenderer fail to fulfil the requirements of the Tender.

No.	Description	<u>Tenderer to Tick (√)</u>	<u>For Official Use Only</u>	
1	Has the Tender Document been completed in <b>INK</b> and all corrections counter-signed? <b>(No correction fluid used)</b>		<b>D</b>	
2	Has all tendered rates been priced in <b>INK</b> and corrections counter-signed? <b>(No correction fluid used)</b>		<b>D</b>	
3	Has all tendered amounts been arithmetically checked and the correct total amounts carried forward to the Summary Page and Tender Form?			
4	Has all information as required in terms of the Tender Document been submitted with the tender?		<b>D</b>	
5	Has the compulsory "Site Inspection/Tender Briefing" meeting been attended and has the "Site Inspection/Tender Briefing" Certificate been completed and signed at the meeting?		<b>D</b>	
6	Has <b>ALL</b> the "Data Sheet" Forms been completed, stamped and signed <b>(where applicable)</b> by a Commissioner of Oaths?		<b>D</b>	
7	Has the "Tender Form" been completed and signed?		<b>D</b>	
8	Has the "Preference Points Claim Form in terms of the Preferential Procurement Regulations 2011" been completed in its entirety and signed?			
9	As an <b>EME</b> , is a certificate issued by an Accounting Officer or a Verification Agency accredited by SANAS or a Registered Auditor attached to the tender document?			
10	As a <b>NON-EME</b> , is an original and valid B-BBEE status level Verification Certificate or a certified copy thereof attached to the Tender Document?			
11	Is a valid Original Tax Clearance Certificate or Tax Compliance Status Verification Pin attached to the Tender Document?		<b>D</b>	
12	Has the CSD Supplier Number and Unique Registration Reference Number submitted with the Tender Document?		<b>D</b>	

\*\*\* **D: Failure to comply with these Sections may prejudice the tender.**

Name of Tenderer : \_\_\_\_\_

Signature : \_\_\_\_\_

Date : \_\_\_\_\_

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

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12.1 Tenderers are advised to check the number of pages and should any be missing or duplicated, or the reproduction indistinct, or any descriptions ambiguous, or this document contain any obvious errors they shall inform the Head: Supply Chain Management or the Engineer at once and have the same rectified. No liability whatsoever will be incurred in respect of errors in any tender due to the Tenderer's failure to observe this requirement.	

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**TENDER NOTICE**

Tenders are hereby invited from suitably qualified and experienced tenderers for Supply & Delivery of Split type electricity meters & Accessories for Domestic and Small Power Users with Advanced metering Infrastructure (AMI)

Tender documents will be made available to tenderers from **14h00 on Friday, 25 October 2024**.

Tender documents can be downloaded and printed at the tenderer's cost from the National Treasury eTender Publication Portal on [www.etenders.gov.za](http://www.etenders.gov.za).

Printed copies of the tender documents shall also be available from the Supply Chain Management Unit Offices, 5<sup>th</sup> Floor, A S Chetty Centre, 333 Church Street, Pietermaritzburg, as from the abovementioned date and time, at a non-refundable tender deposit fee of **R758.77 (including VAT)** for each document drawn. Only cash or EFT payments will be accepted.

For any technical related enquiries, please contact TW Zalisa on Telephone number 033 392 5123 or e-mail address [thandizwe.zalisa@msunduzi.gov.za](mailto:thandizwe.zalisa@msunduzi.gov.za).

For any procurement related enquiries, please contact Phiwe Mthlane (Supply Chain Management Unit) on direct Telephone No. 033 – 392 2486 or e-mail address [phiwe.mthlane@msunduzi.gov.za](mailto:phiwe.mthlane@msunduzi.gov.za).

Tenders must be submitted both in hard copy and on a CD/USB Flash Drive contained in sealed envelopes and marked with “**Contract No. SS E8 OF 2024**” and the **Contract Description** and must be placed in the Tender Box located at the Msunduzi Municipality's Central Stores, 2 Abattoir Road (off Kershaw Street), Pietermaritzburg, 3201 (**coordinates - 29.6126297;30.3610014**), not later than **12h00 on Monday, 25 November 2024**, when they will be publicly opened. Only tenders placed in the Tender Box shall be accepted.

**Tender Validity Period:** Four (4) months commencing from the closing date of tender.

**Tender Adjudication/Evaluation Criteria:** Tenderers shall be evaluated in terms of the 80/20 Preference Point System in accordance with the Preferential Procurement Regulations 2022, issued in terms of Section 5 of the Preferential Procurement Policy Framework Act, Act No. 5 of 2000.

The allocation of Preference Points will be according to the following Ownership Specific Goals:

Specific Goals	Description	Maximum Points
Race	At least 51% South African Black Ownership and/or more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	10

Gender	At least 20% South African Women Ownership.more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	5
Youth	At least 20% South African Youth Ownership. more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	5
<b>Total Preference Points (Ownership Specific Goals)</b>		<b>20</b>

The Msunduzi Municipality does not bind itself to accept the lowest or any tender and reserves the right to accept the whole or any part of a tender. Each tenderer will be informed of the tender result.

The Msunduzi Municipality expects businesses within the Pietermaritzburg and Midlands Region to support its contract and BEE/SMME initiatives.

**MRS MN NGCOBO (ACTING MUNICIPAL MANAGER)**

**THE MSUNDUZI MUNICIPALITY**  
**STANDARD CONDITIONS OF TENDER**

**1. DOCUMENTS**

This document comprises Standard Conditions of Tender, Standard Conditions of Contract, Special Conditions of Contract (if any), Legislation, Specifications, Schedule of Unit Prices, Tender Form, Drawings (if any), Data Sheets and Annexures thereto.

**2. SUBMISSION OF TENDERS**

Tenders must be made out on the Tender Form annexed hereto. Tenderers are advised that this document must be completed in ink and submitted in its entirety. Failure to comply with this condition shall result in the tender being disqualified.

Only original hand priced tender documents will be considered. Tenders submitted by telegram, telex or facsimile shall not be considered. ***The use of correction fluid is strictly prohibited.*** All corrections are to be countersigned.

Tenderers using Courier Companies or any other mode of transport to deliver their tender documents must ensure that the tender documents are delivered to the City Hall, 169 Chief Albert Luthuli Street (Commercial Road), Pietermaritzburg, 3201, and placed in the Tender Box situated in the Foyer, Ground Floor. The Council shall not be held liable for any tender document which is not timeously delivered, mislaid or incorrectly delivered due to the negligence of the Courier Company or any other party involved in the delivery of the tender documents including any employee of the Council.

Sealed tenders addressed endorsed with the appropriate contract number, must reach the City Hall, Pietermaritzburg not later than the date and time stated in the public advertisement inviting tenders, when they will be opened in public. Under no circumstances will any extension of time be allowed for tendering. Tenders shall remain open for three (3) calendar months from the date of opening, except for the initial five (5) working days grace period within which period a tender may be permitted to withdraw a tender subject to an application with good and sufficient reasons being submitted in writing to the approval and at the sole discretion of the Head: Supply Chain Management

All literature submitted must be securely attached to the tender. The Council shall not be held liable for any loss or damages sustained due to the Tenderer's failure to comply with this condition.

In the case of a Tenderer withdrawing his/her tender after the expiry of the grace period, the Council may refuse to receive or consider for such period as it may think fit, any further tenders from that Tenderer.

### **3. COMMUNICATION WITH MEMBERS OF THE COUNCIL OR COUNCIL EMPLOYEES**

Without detracting from any prevailing law, no Tenderer shall offer, promise or give any person or persons connected with the tender or the awarding of a contract, any gratuity, bonus, discount or consideration of any kind in connection with the obtaining of a contract, nor communicate with any member of the Council or a Council employee on a question affecting the awarding of a contract which is the subject of a tender, during the period between the date of closing of tenders and the date of notification of the successful Tenderer; provided always that the Head: Supply Chain Management may obtain additional information from a Tenderer to enable her to formulate her recommendation to Council.

Any attempt to contravene this condition which is brought to the notice of the Head: Supply Chain Management may result in the disqualification of the tender.

Prospective Tenderers are further advised that s118 of the Municipal Finance Management Act prohibits the interference, by any person, with the supply chain management system of the Municipality and the amendment or tampering with any tender, quotation, contract or bid after their submission.

### **4. IMPORT PERMITS**

The Council will not undertake to secure any import permits or currency for the import of any goods or materials required for the execution of this contract. The Tenderer must apply direct for any import permits or currency needed, but the Council will furnish the successful Tenderer with a supporting statement if required.

### **5. PRICES**

Subject to paragraph 9 of the Standard Conditions of Contract, prices shall be based on payment being made within thirty (30) days of receipted delivery and quoted net in South African currency and shall include for all costs whatsoever including materials, plant, labour, patent rights, royalties, freight, insurance, customs, railage and delivery to the place or places nominated in the tender documents, unless the Tenderer states otherwise on Annexure "A" hereto attached.

### **6. REGISTRATION WITH THE CENTRAL SUPPLIER DATABASE (CSD)**

The National Treasury's Central Supplier Database (CSD) has been open for registration from 01 September 2015. The CSD serves as one single source of supplier information to all spheres of government.

Within this system, suppliers are required to register once when they do business with the state. This will significantly reduce the administrative burden for business, especially small and medium sized enterprises. The database interfaces with the South African Revenue Service (SARS), the Companies and Intellectual Property Commission (CIPC) and payroll system. It will electronically verify a supplier's tax and B-BBEE status and enable public sector officials doing business with the state to be identified.

All prospective suppliers can register any time on the CSD website [www.csd.gov.za](http://www.csd.gov.za) Prospective suppliers may also visit the Provincial Treasury Database office situated at Treasury House, Ground Floor, 145 Chief Albert Luthuli Road, Pietermaritzburg from

08h00 to 15h00, Mondays to Fridays, for any assistance with on-line registration on CSD.

For further information or enquiries, please contact 033 – 897 4516 / 033 – 897 4212 / 033 – 897 4624 / 033 – 897 4535 / 033 – 897 4676 / 033 – 897 4509 or Toll-Free at 0800 201 049 during office hours or via e-mail at [database@kzntreasury.gov.za](mailto:database@kzntreasury.gov.za).

With effect from 01 July 2016, the Msunduzi Municipality will not award any tender to a supplier not registered as a prospective supplier on the CSD. Negotiations for the tender award will only be concluded with the qualify tenderer(s) who is/are registered on the CSD on or after 01 July 2016.

In order for Council to verify your Company's registration with CSD, please provide the following information for verification purposes:-

CSD Supplier Number	
Unique Registration Reference Number	

**Failure to provide the above information shall render the tender to be disqualified.**

**7. TAX CLEARANCE CERTIFICATE REQUIREMENTS**

It is a condition of tender that the taxes of the successful tenderer must be in order, or that satisfactory arrangements have been made with the South African Revenue Service (SARS) to meet the tenderer's tax obligations.

Tenderers shall be required to submit together with the tender document a valid original Tax Clearance Certificate or a Tax Compliance Status Verification Pin issued by SARS. Failure to submit an original Tax Clearance Certificate or a Tax Compliance Status Verification Pin will result in the invalidation of the tender. Certified copies of the Tax Clearance Certificate will not be acceptable.

Further to the above, Tenderers are to note that the Tax Clearance Certificate must be valid for the full duration of the tender validity period i.e. three (3) months commencing from the closing date of the tender.

Should the validity of the Tax Clearance Certificate expire prior to the final award of the contract being made, the Council reserves the right to request the Tenderer to submit a further valid Tax Clearance Certificate. In this instance, the Tenderer shall be given seven (7) days written notice in which to comply.

Should the Tenderer fail to comply with the above request, the Council further reserves the right to make no award to the Tenderer and the Council shall not be held liable for any loss or damages sustained by the Tenderer.

If a tenderer has already submitted an original Tax Clearance Certificate when registering on the Central Supplier Database (CSD), then there is no need to submit a hardcopy of another Tax Clearance Certificate provided that the Tax Clearance Certificate is still valid for the full duration of the validity period for this contract. In this instance, the Tenderer will be required to indicate below the CSD Supplier Number and Unique Registration Reference Number for verification purposes:-

CSD Supplier Number	
Unique Registration Reference Number	



**8. ALTERATIONS BY TENDERER**

If a Tenderer wishes to submit alternative proposals for consideration or wishes to change the Conditions of Contract, Specification, Quantities or Drawing, or to qualify the tender in any way, such changes and or proposals are to be listed in Annexure "A" hereto, failing which the tender will be deemed to be unqualified. It must be clearly understood that the Council will be under no obligation to accept any such qualification.

**9. PERIOD FOR DELIVERY**

Unless otherwise specified in these documents, the Tenderer shall state the period within which the complete delivery of all items described in these tender documents and covered by this contract is offered. Such period(s) shall form part of the Conditions of Contract and may be taken into consideration in the adjudication of tenders.

**10. INCOMPLETE TENDERING**

Tenders may be rejected if they show any additional, conditional or incomplete offers, irregularities of any kind in either the Tender Form or the Pricing Schedule or if the prices tendered in the Schedule are not market related i.e. the tendered rates does not conform to current day prices.

Partial awards may be made where this is perceived by the Head: Supply Chain Management or the Engineer to be in the best interests of the Council. Council reserves the right to take into account the principal of the distribution of works in order to empower SMME's and BEE's.

Should there be any difference or discrepancy between the prices or particulars contained in the Tender Form and those contained in any covering letter from the Tenderer, the prices or particulars contained in the Tender Form shall prevail.

**11. ACCEPTANCE OF ANY TENDER**

The Council does not bind itself to accept the lowest or any tender and reserves the right to accept the whole or any part of a tender.

Where less than three (3) tenders are received for items, the Head: Supply Chain Management reserves the right to purchase such items on the open market notwithstanding the acceptance of an offer.

The procedure which will be followed with the acceptance of a tender is as follows:

No formal agreement will be signed.

A letter of acceptance stipulating which rate/s has been accepted will be sent by the Head: Supply Chain Management to the Tenderer and the tender, together with the letter, shall constitute a binding agreement between the Tenderer and the Council.

Unless otherwise stipulated in the letter covering the tender, the Tenderer shall have waived, renounced and abandoned any conditions printed or written upon any stationery used for the purpose of or in connection with the submission of the tender, which are in conflict with the Council's conditions of Tender and the Standard Conditions of Contract.

The Tenderer is warned that any material divergence from the official conditions or specification may render the tender liable to disqualification.

**12. DOMICILIUM CITANDI ET EXECUTANDI**

For the purpose of the service of all documents and the giving of notice as may be required in terms of this contract or as a result of any action arising in conjunction with it, the Council chooses City Hall, 169 Chief Albert Luthuli Street (Commercial Road), Pietermaritzburg.

The Tenderers domicilium citandi et executandi shall be held to be whatever street address given in the Tender Form attached hereto.

Either party may at any time give one (1) month notice in writing of a change of its domicilium citandi et executandi provided such address shall be within the Republic of South Africa.

**13. SAMPLES FOR ADJUDICATION**

Samples may be required at the tender stage for adjudication purposes. If so, they are to be supplied at the Tenderer's expense and in accordance with the specifications.

**14. DATA SHEETS**

Tenderers shall be required to complete all Data Sheets and the Tender Form attached hereto in their entirety for adjudication purposes. Where Data Sheets and/or any other documentation as contained herein are required to be commissioned, such Data Sheets and/or documentation must be stamped and signed by a Commissioner of Oaths. **Failure to comply with these provisions will render the offer unresponsive (invalid).**

**15. MUNICIPAL FEES**

All Tenderers are to sign the Declaration herein where they declare that their Municipal Fees are in order, or proper arrangements have been made with the Council, and include the relevant account numbers in the declaration.

**16. APPEALS AND/OR OBJECTIONS**

Any Tenderer aggrieved by decisions or actions taken by the Municipality may lodge within fourteen (14) calendar days of the date of the decision or action, a written objection or complaint to the Municipal Manager.

In the event of the above case, the following procedure shall apply:-

The Tenderer shall be required to pay an appeal/objection fee in the amount of **half percent (0.5%) of the total contract sum including VAT or R2 000.00, whichever is the greater to a maximum value of R20 000.00.**

The fee is to be paid in cash or by bank guarantee cheque on or before the expiration of the above period and proof of such payment is to be submitted together with the letter of appeal/objection to the Municipal Manager. No appeal/objection will be addressed should the afore-mentioned condition not be adhered to and the Municipality shall not be held liable for any loss or damage sustained by the Tenderer due to the Tenderer's failure to adhere to the above condition.

**17. PREFERENCE POINTS CLAIMED IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022**

Tenderers claiming preference points shall be required complete Annexure “C” hereto in its entirety and to fully comply with the General Conditions, Definitions and Directives stated therein. Failure to do so shall result in no preference points being awarded to the tenderer and the Council shall not be held liable for any loss or damages in this regard. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, 2022, Preference points must be awarded for specific goals stated in the tender.

Tenderers are required to submit, together with the tender document, proof or documentation required in terms of this tender to claim points for specific goals with the bid, will be interpreted to mean that preference points for specific goals are not claimed.

**18. COMBATIVE TENDERING**

The Supply Chain Management Regulations states that Combative practices are unethical and illegal. These include but are not limited to:-

- (i) Suggestions to fictitious lower quotations;
- (ii) Reference to non-existent competition;
- (iii) Exploiting errors in bids;
- (iv) Soliciting bids from Tenderers whose names appear on the list of restricted bidders/suppliers/persons, and,
- (v) Submission of two bids by a Tenderer.

Any attempt to contravene this condition which is brought to the notice of the Municipal Manager or the Head: Supply Chain Management shall result in the disqualification of the tender. The Council further reserves the right to take any other action as it may deem necessary.

**19. PROHIBITION ON AWARDS TO PERSONS IN THE SERVICE OF THE STATE**

The Supply Chain Management Regulations states that the Council may not make any award to a person:-

- (a) who is in the service of the state ;
- (b) if that person is not a natural person, of which and director, manager, principal shareholder or stakeholder is a person in the service of the state; or
- (c) who is an advisor or consultant contracted with the municipality or municipal entity.

**20. COMPANIES AND INTELLECTUAL PROPERTY COMMISSION (CIPC)**

Service Providers shall be required to submit together with the tender, proof of registration with the above commission for verification purposes.

**21. SUB-CONTRACTING THE WORK**

Should the goods or services required under this contract be subjected to the Tenderer sub-contracting the work, the Tenderer shall be required (*for adjudication purposes*) to submit together with the tender a letter of undertaking from the Sub-Contractor indicating the Sub-Contractor's willingness to supply the Tenderer the goods or services required for the full duration of the contract period. Failure to comply with this condition may prejudice the tender.

Further to the above, it must be noted that the Council shall not be held liable for any payments whatsoever to the Sub-Contractor and such arrangements shall rest between the Tenderer and the Sub-Contractor.

**22. CESSION AGREEMENTS**

Cession Agreements can be considered by the Municipality in the event of empowering SMME's.

**23. ADJUDICATION CRITERIA**

The tender shall be evaluated on a 80/20 Preference Point System in accordance with the Preferential Procurement Regulations, 2017, issued in terms of section 5 of the Preferential Procurement Policy Framework Act, Act No. 5 of 2000.

**24. JOINT VENTURE AGREEMENTS AND CONSORTIUMS**

Service Providers intending to tender in the form of Joint Ventures/Consortiums **must submit** the following documentation together with the tender:-

- 1) Original valid Tax Clearance Certificates of all parties of the Joint Venture/Consortium;
- 2) An undertaking duly signed by all parties of the Joint Venture/Consortium indicating their intention to enter into an agreement for the purposes of this contract, and,
- 3) A consolidated valid and original or certified copy of their B-BBEE Status Level Verification Certificate obtainable from a verification agency accredited by SANAS or a registered auditor approved by the Independent Regulatory Board of Auditors (IRBA).

Further to the above, the name of the Joint Venture/Consortium must appear on the relevant pages of the document. Failure to comply with these requirements shall lead to disqualification.

**20. SERVICE LEVEL AGREEMENT**

The successful Service Provider will be required to enter into a Service Level Agreement with the Msunduzi Municipality before the commencement of any works or services."

**THE MSUNDUZI MUNICIPALITY**  
**STANDARD CONDITIONS OF CONTRACT**

**1. DEFINITIONS AND INTERPRETATIONS**

The following definitions shall apply:-

**"Council"** means the Msunduzi Municipality.

**"Engineer"** means the General Manager: Infrastructure Services of the day of the Msunduzi Municipality or the said Manager's duly appointed Representative.

**"Head: Supply Chain Management"** means the Head: Supply Chain Management of the day of the Msunduzi Municipality or the Head: Supply Chain Management's duly appointed Representative.

**"Contractor"** means the person, firm or company whose tender has been accepted by the Msunduzi Municipality and includes the supplier's heirs, executors, administrators, trustees, judicial managers or liquidators, as the case may be, but not, except with the written consent of the Council, any assignee of the Supplier.

**"Contract Document"** means the Standard Conditions of Tender, Standard Conditions of Contract, Special Conditions (if any), Specifications, Schedule of Quantities/Equipment, Priced Schedule of Rates and Prices, Drawings (if any), Tender Form and Annexures thereto and the final Letter of Acceptance.

**"Contract Price"** means the sum named in the tender, subject to such additions thereto or deductions therefrom as may be made from time to time under the provisions hereinafter contained.

**"Special Conditions"** means any addition to or departure from or amendment of these Standard Conditions as set out in Annexure "A": Alterations by Tenderer hereof.

**"Drawings"** means the drawings referred to in the Specification and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.

**"Goods"** means the equipment, plant, vehicles or materials to be supplied in accordance with the Contract.

**"Preferential Procurement Policy"** means the Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000).

**"SARS"** means the South African Revenue Services.

**2. QUALITY OF MATERIALS AND WORKMANSHIP AND TESTS**

All materials and workmanship shall be of the respective kinds described in the contract and in accordance with the specification and shall be subjected to such tests, carried out by such persons, as the Engineer may direct at the place of manufacture or fabrication or at the delivery site or at all or any of such places. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, mass or quantity, mass or quantity of any materials for testing as may be required by the Engineer. The Contractor may be present at any tests which the Engineer decides to carry out.

**3. SAMPLES FOR QUALITY CONTROL**

If samples are required in terms of the specification, such samples shall be supplied by the Contractor at his/her own cost.

All samples approved by the Engineer will be retained by him/her as standards for the duration of the contract.

The Council reserves the right to purchase any sample submitted at the tender price. Samples not so purchased will be recoverable by the Contractor at his/her expense.

**4. REMOVAL OF IMPROPER MATERIALS**

All materials delivered to the delivery site will be inspected by the Engineer and should any be delivered which, in the opinion of the Engineer, are inferior in quality or workmanship to the deposited sample or to the standard required in the Specification or be found to be damaged on delivery, such goods shall be immediately removed by the Contractor.

No payment will be made for any materials nor for any loss incurred by the Contractor as a consequence of such rejection.

**5. QUANTITY**

The Council does not guarantee to purchase any specific quantity and orders will be placed for materials as and when they are required. The tendered price shall apply to all purchases regardless of the quantity ordered. Should the Contractor wish to place any limit on the maximum quantity to be supplied, this must be clearly stated in the tender.

**6. DELIVERY**

Prices shall include for the delivery of the materials as detailed in the specifications. The Contractor shall be responsible for all damages or breakages in transit until the materials have been accepted by the Engineer at the delivery site.

Immediately after forwarding any materials, an advice note shall be sent in duplicate to the Engineer, Private Bag X205, Pietermaritzburg, giving the size and mass of each article, where applicable, and the date of despatch.

All ordered materials shall be delivered within the period stated in the tender. If a Tenderer is unable to comply with this clause, the delivery period offered must be stated.

**7. PENALTY FOR LATE DELIVERY**

Upon any delay in delivery beyond the tendered delivery period, the Council shall be entitled forthwith to purchase services of the same description as and in lieu of those specified to be supplied, or forthwith to cancel the contract and to purchase elsewhere such materials as may be required during the contract period and the Contractor shall bear any difference in price between any materials so purchased and the tendered price. The amount of such difference shall be paid by the Contractor to the Council immediately on demand, or the Council may deduct such difference from moneys (if any) otherwise payable to the Contractor in respect of materials or services already delivered under this or any other contract.

**8. TERMINATION OF THE CONTRACT**

Should the Contractor (for whatever reason) fail to execute the works in accordance with the terms and conditions stated herein, the Council reserves the right to cancel the contract forthwith without prejudice to Council and the Council shall not be held liable for any loss or damages resulting from such cancellation.

Further to the above, the Council reserves the right to enforce Clause 7 above including any other remedies it may deem necessary.

**9. TERMS OF PAYMENT**

Payment will be made by the Chief Financial Officer (CFO) within thirty (30) days on receipt of a certificate of payment issued by the Engineer and will be made by means of a cheque drawn upon the Council's bankers in Pietermaritzburg. No cash payments shall be made.

Where the value of the works exceed R3 000.00 excluding VAT, the Contractor must quote the Council's VAT Registration No. 4600107835 on all Tax Invoices for payment purposes.

Where offers of discounts eg for payment within thirty (30) days of rendering accounts, are made by Contractor, these will be taken into account in the adjudication of tenders. Contractors shall be required to have a bank account in the legal name of the Contractor as indicated on the Tax Clearance Certificate. No payment whatsoever will be made should the Contractor fail to comply with this requirement and the Council shall not be held liable for any loss or damages sustained by the Contractor in this regard.

## 10. PRICE ADJUSTMENT/ESCALATION

- (a) In all cases where a tendered price is offered subject to adjustment, such adjustment shall be calculated in accordance with the following formula:-

$$E = V \times \frac{(I_e - I_o)}{I_o}$$

Where:

E	=	the amount of adjustment
V	=	tendered price/value
I <sub>e</sub>	=	index applicable at the invoice date, and
I <sub>o</sub>	=	the base index

unless the Contractor expressly stipulates and sets out in detail an alternative formula in terms of which prices will escalate.

Where Contractors have linked their prices to manufacturers/suppliers price increase, full disclosure of the rates/prices must be submitted together with the tender.

- (b) Notwithstanding the provisions of paragraph (a), the Council shall not be liable for adjustment unless the Contractor specifies a price index (or indices) in respect of the materials to be supplied.
- (c) For the purpose of calculating the amount of adjustment in terms of any formula, the base index shall be the index for **March 2017** regardless of the actual due tender date.
- (d) The index for the previous month shall apply up to and including the 15th day of a month, thereafter the current month's index shall apply.
- (e) The applicable index (indexes) is: \_\_\_\_\_

In any case where a Contractor has complied with the conditions set out above, the Council shall nonetheless not be liable to pay for adjustment unless the Contractor, in submitting an account, submits, on each occasion the Contractor does so, a separate account reflecting the adjustment amount claimed together with all calculations and documents necessary to verify the claim.

Upon receipt of the claim account referred to above, the Council shall not however be obliged to settle the account until the amount claimed is verified by the Council's Auditors in terms of the preceding paragraphs.

The Contractor must please submit claims before 31 July for the previous financial year ending 30 June. No claims submitted after this date will be entertained.



**11. GOVERNMENT CONTROLLED PRICES**

Where the tendered price of any item placed on contract is controlled by the various Control Boards constituted under the Marketing Act or by the Price Controller, such price shall, in the event of any amendment to the price ruling at the time the tender was submitted being sanctioned by the Price Controller, be subject to a like increase or decrease as the case may be. Contractors must state clearly which items are subject to such control; unless this is done no payments will be made in the excess of the tendered prices. In the event of price control over any item on contract being withdrawn during the currency of the contract, the contract price applicable to such item thereafter shall not be higher than the price in operation immediately prior to the withdrawal of price control.

If the Contractor claims escalation, Clause 10 does not apply.

**12. FORWARD COVER**

The Contractor will be deemed by submission of a tender to hold or to have arranged forward foreign exchange cover on all imported goods or materials, with the cost thereof included in the price schedule. In any case which a Contractor tenders a price subject to exchange rate fluctuations, the exchange rate/s and the date/s thereof at which the goods or materials are offered are based must be clearly indicated on Annexure "A": Alterations by Tenderer. If no exchange rate/s is indicated, the tender prices shall be considered not subject to any exchange rate fluctuations.

**13. INSURANCE AND RAILAGE RATES ETC**

Should there be any increase in the statutory rates of freight, insurance and railage, a pro rata increase or decrease shall be made in the price of the material delivered. The contractor shall notify the Municipal Manager, or the Chief Financial Officer, or the Head: Supply Chain Management as the case may be of any variation in rates as soon as the Contractor is aware of them.

A claim for increased freight, insurance and railage will be admitted on production of the original papers showing clearly that the amount has been paid by the contractor.

**14. ASSIGNMENT AND SUBLETTING**

Neither the Supplier nor the Council shall assign the contract or any part thereof or any benefit or interest therein or thereunder without the written consent of the other.

The Supplier shall not sub-let the whole or any part of this contract without the written consent of the Engineer and such consent, if given, shall not relieve the Supplier from any liability or obligation under the contract.

**15. SECRECY OF INFORMATION**

Subject to the provisions of the Promotion of Access to Information Act, the information revealed in this tender document is to be classified as confidential. Accordingly, the Engineer reserves the right to request references and generally examine bona fides and available facilities of any company of firm wanting to participate in this contract.

**16. LAW TO APPLY**

The contract shall in all respects be construed in accordance with the law of the Republic of South Africa, and any difference that may arise between the Council and the Contractor in regard to the contract shall be settled in the Republic of South Africa.

**17. PATENT RIGHTS**

The Contractor shall pay all royalties and expenses and be liable for all claims in respect of the use of patent rights, trade marks or other protected rights, and shall hold the Council indemnified and harmless against any claims for loss or damage to (including legal expenses) arising therefrom.

**18. SEQUESTRATION OR SURRENDER OF CONTRACTOR'S ESTATE**

In the event of an order being made for sequestration of the Contractors estate, whether provisional or final, or in the event of an application being made for such order, or in the event of the Contractor making application for the surrender of the Contractors estate, or if the Contractor shall enter into, make or execute any deed of assignment or other composition or arrangement with, or assignment for the benefit of the Contractors creditors, or purport to do so, or if the Contractor, being a company, shall pass a resolution, or if the Court shall make an order for the liquidation of such company, the Council shall have the right, summarily and without recourse to law, to terminate the contract without payment of any compensation to the Contractor, and without prejudice to the right of the Council to sue the Contractor for any damages sustained by it in consequence of one or the other of the afore-mentioned events.

**19. CONTRACT TO BE IN CONFORMITY WITH BY-LAWS AND ANY OTHER APPLICABLE LAWS**

The contract shall be carried out subject to and in conformity with any law, regulation or By-law which is of application thereto and shall be conditional upon any necessary consent required by law being obtained.

## **THE MSUNDUZI MUNICIPALITY**

### **LEGISLATION**

#### **1.0 GENERAL**

- 1.1 Contractors will be deemed by virtue of submitting a tender to have undertaken to be aware of and comply fully for all purposes under this contract with all current legislation and related regulations. The following Acts, as amended from time to time, are listed for the attention of the Contractor, without prejudice and without in any way relieving the Contractor of the obligation to continuously comply with all the laws of South Africa for the entire duration of this contract, the cost of so doing being expressly included in the contract sum. It is the sole duty of the Contractor to ensure that it acquaints itself and complies with all applicable legislation. **The Council shall not be liable in any way whatsoever for any errors or omissions in the legislation listed herein.**

#### **2.0 THE OCCUPATIONAL, HEALTH AND SAFETY ACT (ACT 85 OF 1993) (OHS ACT)**

- 2.1 The OHS Act covers inter alia "any work in connection with –

- a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of an addition to a building;
- b) the installation, erection or dismantling of machinery;
- c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, railway, street, runway, sewer or water reticulation system or work on any similar project;
- d) the moving of earth, clearing of land or making of an excavation or work on any similar project." (General Administrative Regulations Clause 1).

It is recorded that the subject of this contract falls within the scope of the foregoing work definition, and that the Employer in terms of this contract is the Mandator and that the Contractor is the Mandatory in terms of the OHS Act.

- 2.2 The OHS Act covers *inter alia* "any work in connection with -

- a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of an addition to a building;
- b) the installation, erection or dismantling of machinery;
- c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, railway, street, runway, sewer or water reticulation system or work on any similar project; and
- d) the moving of earth, clearing of land or making of an excavation or work on any similar project." (General Administrative Regulations Clause 1).

It is recorded that the subject of this contract falls within the scope of the foregoing work definition, and that the Employer in terms of this contract is the Mandator and that the Contractor is the Mandatory in terms of the OHS Act.

- 2.3 The arrangements and procedures to ensure compliance by the Mandatory with the provisions of the OHS Act referred to in the Agreement, in Annexure B, between the Employer and the Contractor in this contract are:

- 2.3.1 The Mandatory shall keep a record of all incidents in terms of Clause 10 (1) of the General Administration Regulations (GAR).

- 2.3.2 The Mandatory shall cause every incident to be investigated in terms of Clause 10 (2) of the GAR.
- 2.3.3 The Mandatory shall cause all such records to be examined by a Safety Committee in terms of Clause 10 (3) of the GAR.
- 2.3.4 The Mandatory shall on demand furnish the divisional inspector with such returns as may be required in terms of Clause 14 of the GAR.
- 2.3.5 The Mandatory shall charge a full-time employee designated in writing by the Mandatory with the duty of supervising the performance of the work (or the Mandatory may personally undertake this duty) in terms of Clause 11 of the General Safety Regulations.
- 2.3.6 The Mandatory shall, before commencing or carrying out the work, inform the divisional inspector in writing of:-
  - a) the address of the premises on which such work will be carried out;
  - b) the nature of such work;
  - c) the date on which it is expected that such work will be commenced; and
  - d) the date on which it is expected that such work will be completed.

all in terms of Clause 15c of the GAR
- 2.3.7 The Mandatory shall comply with all other aspects of the OHS Act relative to the nature of the works and shall scrupulously observe and execute any instruction given by an official inspector with reference thereto.

### **3.0 THE COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (ACT 130 of 1993) (COID ACT)**

- 3.1 Contractors are required to register as employers in terms of the COID Act.
- 3.2 Contractors must pay the assessments due in terms of the COID Act relative to their employee records including all sub-contractors and community based labour.
- 3.3 In this specific contract the Contractor further acknowledges that the Employer shall have the right, without prejudice, to deduct any shortfall in compensation due to any employee of the Contractor (or sub-contractor) from monies due or which may become due to the Contractor, and so effect settlement of the matter.

### **4.0 THE LABOUR RELATIONS ACT (ACT 66 of 1995) (LR ACT)**

- 4.1 Contractors are required to register as employers in terms of the LR Act.
- 4.2 Contractors are required to pay all employee and employer contributions to the Unemployment Benefits Fund, other than in respect of casual employees defined as persons who work for less than eight hours in any one week, or in respect of persons who by virtue of lawful reasons are exempt therefrom.

## **5.0 THE BASIC CONDITIONS OF EMPLOYMENT ACT (ACT 3 of 1983) (BCE ACT)**

- 5.1 Contractors in their capacity as employers are required to comply with the provisions of the BCE Act with special reference to their employees' terms and conditions of employment.

## **6.0 THE INCOME TAX ACT (ACT 58 of 1962)**

- 6.1 Contractors in their capacity both as business enterprises and employers are obliged to register and comply with the requirements of the Receiver of Revenue.

## **7.0 THE VALUE ADDED TAX ACT (ACT 89 of 1991)**

- 7.1 Contractors in their capacity as business enterprises are required, if their annual turnover exceeds or is expected to exceed R150 000 by the end of February each year, to register as VAT vendors with the Receiver of Revenue for the purpose of paying, recovering, charging and returning VAT to the State via the Receiver of Revenue.
- 7.2 It is recorded that the Employer in this contract is registered as a VAT vendor.

## **8.0 THE ENGINEERING PROFESSION ACT OF SOUTH AFRICA (ACT 114 of 1990)**

- 8.1 Where work undertaken in connection with this contract falls within the meaning of "*kinds of work reserved for professional engineers*" as fully set out in the Engineering Profession Act of South Africa 1990, or any amendments thereof, only persons registered in terms of the above Act, may assume full responsibility, according to competency under the Act, for the respective sections and phases of such work, as described in the Act, particularly in regard to design, supervision of construction and installation, and commission where applicable.
- 8.2 The Service Provider shall submit a certificate with the tender certifying compliance with all these requirements in connection with the preparation and submission of the tender and shall give an undertaking to comply in full during the contract period. Where applicable the Service Provider shall submit at the time of tendering the name(s), qualifications and address(es) of the Professional Engineer(s) responsible for the various disciplines and portions of the work comprising this contract.

## **9.0 NON-COMPLIANCE**

- 9.1 The Employer in this contract will not under any circumstances be, or become party to, any act or omission by the Contractor and/or the Contractor's Sub-contractors and/or employees, which contravenes South African law.
- 9.2 Notwithstanding anything to the contrary in this tender document, and in addition to any other remedies the Council may have, if at any time during this contract, the Council discovers any contravention of the laws expressly mentioned herein or any other applicable law, then the Council shall have the right to cancel this contract forthwith. In such event, the Council shall not be liable for any loss or damages caused by such cancellation.

## **THE MSUNDUZI MUNICIPALITY**

### **SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024** **SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER** **USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

#### **SPECIFICATION**

##### **1.0 SCOPE OF CONTRACT**

This contract calls for the Supply & Delivery of Split type electricity meters & Accessories for Domestic and Small Power Users with Advanced metering Infrastructure (AMI).

##### **2.0 SCOPE OF WORKS**

This contract calls for the supply and delivery of the following items. A maximum of 2 suppliers are required for this item and shall be awarded as per final preference points.

##### **2.1 Split type meters with PLC G3 communication**

- 2.1.1 Split type single phase electricity meter (Dual Pre & Post Paid)
- 2.1.2 Split type three phase electricity meter (Dual Pre & Post Paid)
- 2.1.3 Customer interface unit
- 2.1.4 Alternate offers to split type metering to item 2.1.1
- 2.1.5 Alternate offer to split type metering to item 2.1.2
- 2.1.6 Alternate offer to Customer interface unit to item 2.1.3
- 2.1.7 **Advanced Metering Infrastructure**
  - 2.1.7.1 Head end requirements: Hosted Engineering & meter management Software.
  - 2.1.7.2 Front end hardware : Concentrator units & accessories
  - 2.1.7.3 Alternate offer to item 2.1.7.1 : Purchase and installation of engineering & meter management Software
- 2.1.8 Accessories & replacement parts
- 2.1.9 Technical Support
- 2.1.10 Training
- 2.1.11 Hardware Diagnostic software.

##### **2.2 Split type meters with RF Communication**

- 2.2.1 Split type single phase electricity meter (Dual Pre & Post Paid)
- 2.2.2 Split type three phase electricity meter (Dual Pre & Post Paid)
- 2.2.3 Customer interface unit
- 2.2.4 Alternate offer to split type metering to item 2.2.1
- 2.2.5 Alternate offer to split type metering to item 2.2.2
- 2.2.6 Alternate offer to Customer interface unit to item 2.2.3
- 2.2.7 **Advanced Metering Infrastructure**
  - 2.2.7.1 Head end requirements: Hosted Engineering & Meter Management Software
  - 2.2.7.2 Front end hardware: Concentrator units & accessories
  - 2.2.7.3 Alternate offer to item 2.2.7.1: Purchase and installation of Engineering & meter management Software
- 2.2.8 Accessories & replacement parts
- 2.2.9 Technical Support
- 2.2.10 Training
- 2.2.11 Hardware Diagnostic software

### **3.0 DETAILED TECNICAL SPECIFICATION**

#### **1.0 INTRODUCTION**

The Msunduzi Municipality requires electrical meters for its domestic customers and small power users. These customers require electrical supplies taken at single phase or three phase connections, and measured in post-paid mode or pre-paid mode. Therefore the Municipality wishes to procure such meters with the relevant technology that will meet the requirements of its customers and also assist in the remote monitoring of their consumption with the use of Advanced metering infrastructure.

#### **2.0 TECHNICAL SPECIFICATION**

##### **2.1 Normative References: General**

The following document contains provisions that, through reference in the text, constitute requirements of this specification. All standards and specifications are subject to revision, and parties are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

<b>STANDARD</b>	<b>DESCRIPTION</b>
BS 7856	Specification for special design and other features of alternating current watthour meters for active energy for use in the UK (Accuracy Classes A and B)
CENELEC EN 50065-1	Signalling on Low-Voltage Electrical Installations in the Frequency range 3kHz to 148,5 kHz - Part 1: General Requirements, Frequency bands and Electromagnetic Disturbances
CISPR 22	Standard for Information Technology Equipment-Radio Disturbance Characteristics-Limits and Methods of Measurement.
COSEM	Companion Specification for Energy Metering
DLMS	Device Language Message specification
DSP 34-1527	Eskom specification: Procedure for producing software process assessment documents
DSP 34-1635	Eskom Specification: Particular requirements for prepayment meters
DSP 34-749	Eskom specification: Standard for sealing metering equipment
EN 50065-1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148.5 kHz - Part 1: General requirements, frequency bands and electromagnetic disturbances; German version EN 50065-1:2011
EN 62054-21	Electricity metering equipment (a.c.). Tariff and load control. Particular requirements for time switches
IEC 60068-2-27	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock
IEC 60068-2-6	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)

IEC 60695-2-1	Fire hazard testing - Part 2: Test methods - Section 1: Glow-wire test and guidance
IEC 60950	Information technology equipment - Safety - Part 1: General requirements
IEC 61000-4-2	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
IEC 61000-4-3	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
IEC 61000-4-4	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test
IEC 61000-4-6	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61334-4-41	Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 41: Application protocol - Distribution line message specification
IEC 61334-5-2	Distribution automation using distribution line carrier systems - Part 5-2: Lower layer profiles - Frequency shift keying (FSK) profile
IEC 62052-11	Electricity metering equipment (a.c.) - General requirements, tests and test conditions - Part 11: Metering equipment
IEC 62053-21	Electricity metering equipment (a.c.) - Particular requirements - Part 21: Static meters for active energy (classes 1 and 2)
IEC 62053-23	Electricity metering equipment (a.c.) - Particular requirements -Part 23: Static meters for reactive energy (classes 2 and 3)
IEC 62055-21	Electricity metering - Payment systems - Part 21: Framework for standardization
IEC 62055-31	Electricity metering - Payment systems - Part 31: Particular requirements - Static payment meters for active energy (classes 1 and 2)
IEC 62055-41	Electricity metering – Payment systems – Part 41: Standard transfer specification (STS) – Application layer protocol for one-way token carrier systems
IEC 62055-51	Electricity metering - Payment systems - Part 51: Standard transfer specification (STS) - Physical layer protocol for one-way numeric and magnetic card token carriers
IEC 62055-52	Electricity metering - Payment systems - Part 52: Standard transfer specification (STS) - Physical layer protocol for a two-way virtual token carrier for direct local connection



IEC 62056-21	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange
IEC13239	Information Technology - Telecommunications and Information Exchange between Systems - High-Level Data Link Control (HDLC) Procedures
ISO 14001:2004	Environmental management systems
ISO 18001: 2007	Information technology -- Radio frequency identification for item management
ISO 4757-1983	Cross recesses for screws
ISO 9001:2008	Quality management
ITU-T G.9903	Narrowband orthogonal frequency division multiplexing power line communication transceivers for G3-PLC networks
OFDM G3-PLC	OFDM (orthogonal frequency-division multiplexing)-based powerline communication (PLC) specification
OHSAS 18001:2007	Occupational health and safety management systems
SANS 1524-1	Electricity payment systems Part 1: Payment meters
SANS 15417	Information technology - Automatic identification and data capture techniques - Code 128 bar code symbology specification
SANS 61643-1	Low-voltage surge protective devices Part 1: Surge protective devices connected to low-voltage power distribution systems - Requirements and tests
UL94-V0	Standard for Tests for Flammability of Plastic Materials for Parts in Devices

### 3.0 Split type meters with PLC G3 communication

#### 3.1 Item 2.1.1 - Split type single phase electricity meter (Dual Pre & Post Paid)

##### Split Metering Functionality

The split metering solution consists of two parts, the meter and the customer interface unit. The single phase DIN-Rail split prepayment meter must incorporate metering functionality combined with STS prepayment. Additional meter functionality is required such as remote disconnection and reconnection and switching to post-payment mode.

Communication between the meter and the customer interface unit is by means of G3-PLC Power Line Carrier, using existing household wiring; no additional communication wires are required.

The Customer Interface Unit must be compact with a user-friendly keypad and display. It may be installed in any convenient location in the consumer's home where there is an electrical socket outlet. An easily replaceable battery must be provided for communicating in the absence of AC mains power e.g. when the meter is out of credit.

The meter must contain all critical metering, token decryption, load control and meter functionality. It must operate independently and be immune to any form of tampering on the

Customer Interface Unit. The Single-phase DIN-Rail meter is typically installed in a pole-top enclosure or secure street kiosk and its small size enables a smaller street kiosk to be used. When used in conjunction with the G3-PLC Data Concentrator, the meter is able to operate in an on-line mode.

### **3.1.1.1 Single Phase meter requirements**

- a) Single-phase, 2 wire DIN-Rail prepayment PLC meter with a display which works with a Customer Interface Unit
- b) Integrated OFDM G3-PLC transceiver for two way communications between the meter, the Customer Interface Unit and the Data Concentrator
- c) Open standards for interoperability
- d) Open STS prepayment (IEC62055-41/51)
- e) dlms/COSEM
- f) Open International standard for PLC communications - OFDM G3-PLC
- g) Housing format suitable for mounting on a 35mm DIN rail or alternative hanging bracket and flush mounting facilities
- h) IP 54 degree of protection
- i) Bottom connect terminals for ease of retrofit and efficient wiring layouts in pole-top enclosures or street kiosks
- j) Short terminal cover options
- k) Zero power tamper sensing when meter is not powered
- l) Event trigger and fraud logs with date and time stamps in the on-line mode
- m) Voltage threshold settings with events logged when thresholds are exceeded
- n) Remote disconnect and reconnect in the on-line mode
- o) Demand supervision and power-limit capabilities
- p) Bidirectional meter Four quadrant measurement with separate import and export registers
- q) Changeable metering modes by means of DLMS special command set
- r) Modes supported: kWh transfer STS Prepayment, Prepayment TOU with STS Currency token transfer TOU and Post-payment
- s) Emergency credit
- t) Real Time Clock – synchronised by the Data Concentrator in the on-line configuration mode
- u) Time of Use, with STS currency token transfer option in the prepayment mode

### **3.2.2 Item 2.1.2 - Split type three phase electricity meter (Dual Pre & Post Paid)**

#### **Split Metering Functionality**

The split metering solution consists of two parts, the meter and the customer interface unit. Communication between the meter and the customer interface unit is by means of G3-PLC Power Line Carrier, using existing household wiring; no additional communication wires are required.

The Customer Interface Unit must be compact with a user-friendly keypad and display. It may be installed in any convenient location in the consumer's home where there is an electrical socket outlet. An easily replaceable battery is provided for communicating in the absence of AC mains power e.g. when the meter is out of credit.

The meter must contain all critical metering, token decryption, load control and meter functionality. It operates independently and must be immune to any form of tampering on the Customer Interface Unit.

The 3ph meter is typically installed in a secure street kiosk. When used in conjunction with the G3-PLC Data Concentrator, the meter is able to operate in an on-line mode.

### **3.2.2.1 Three Phase meter requirements**

- a) Three-phase, 4 wire post & pre-payment PLC meter with the display which works with a PLC Customer Interface Unit
- b) Integrated OFDM G3-PLC transceiver for two way communications between the meter, the Customer Interface Unit and the Data Concentrator
- c) Open standards for interoperability
- d) Open STS prepayment (IEC62055-41/51)
- e) dlms/COSEM
- f) Open International standard for PLC communications - OFDM G3-PLC
- g) Terminal format - 3 phase asymmetrical layout
- h) Short terminal [default] cover options
- i) Event trigger and fraud logs with date and time stamps in the on-line mode
- j) Voltage threshold settings with events logged when thresholds are exceeded
- k) Remote disconnect and reconnect in the on-line mode
- l) Extensive e-metering load switch control functions including fuse supervision
- m) Bidirectional meter Four quadrant measurement with separate import and export registers
- n) Changeable metering modes by means of dlms special commands
- o) Modes supported: kWh transfer STS Prepayment, Prepayment TOU with STS Currency token transfer TOU and Post-payment
- p) Emergency credit
- q) Real Time Clock – synchronised by the Data Concentrator in the on-line configuration mode
- r) Time of Use, with STS currency token transfer option in the prepayment mode
- s) Meter has local LCD display

### **3.2.3 Item 2.1.3 - Customer interface unit**

- a) The Customer Interface Unit must be compact with a user-friendly keypad and display.
- b) It may be installed in any convenient location in the consumer's home where there is an electrical socket outlet.
- c) An easily replaceable battery must be provided for communicating in the absence of AC mains power e.g. when the meter is out of credit
- d) The CIU is plugged into an existing mains outlet in the household
- e) Under normal conditions when the load switch of the meter is closed and there is power in the house, the Customer Interface Unit operates directly from mains voltage. However in the event that the meter load switch opens (e.g. could be due to prepayment credit expiring), the Customer Interface Unit, which is fitted with a battery, will enter a sleep mode to save battery energy. By pressing and holding a specific key on the keypad, the customer is able to power up the Customer Interface Unit using the battery and enable a new prepayment credit token to be entered. If there is no power in the household and the customer interface unit is woken up using the battery, the display will flash on and off, showing the user the last known status of the meter, for example prepayment credit expired.
- f) The customer or field technician can additionally view meter parameters by accessing specific register information via the Customer Interface Unit keypad or by scrolling through the available pre-configured registers, by pressing the scroll up and down buttons on the keypad.

### **3.2.4 Item 2.1.4 Alternate offers to split type metering to item 2.1.1**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.1. A complete product detail and specification is required to be submitted by the tenderer for evaluation & the Municipality reserves to right to make an award on this item.

### **3.2.5 Item 2.1.5 Alternate offer to split type metering to item 2.1.2**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.2. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves to right to make an award on this item.

### **3.2.6 Item 2.1.6 Alternate offer to Customer interface unit to item 2.1.3**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.3. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves to right to make an award on this item.

### **3.2.7 Item 2.1.7 - Advanced Metering Infrastructure for PLC G3 communication**

- a) The AMI system is an infrastructure for two-way communication between a meter and the Utility. The objective of the AMI system is to provide the Electricity Utility with real-time data about energy consumption and allow them to remotely manage their metering devices. It should also allow its consumers to make informed choices about their energy consumption.
- b) The Municipality requires the provision of a **hosted** platform Advanced Metering Infrastructure system that facilitates the remote management of meters. This system must be compatible with meters in items 2.2.1 & 2.2.2 above. Failure to comply with the compatibility will result in a disqualification for this item.

#### **Functional components**

The AMI system should comprise of the following components:

#### **a) Head End**

- i) Communication Server
- ii) Web based client

#### **b) Front End**

- i) Concentrator unit and accessories
- ii) Advanced Meter and Accessories

#### **Technology and system requirements**

The AMI Communication Server should meet the following technology and system requirements for supported operation systems:

- a) Windows 10
- b) Windows 8
- c) Windows 7
- d) Windows Server 2012
- e) Windows Server 2008

### **3.2.7.1 -Item 2.1.7.1 - Head End requirements**

#### **3.2.7.1.1 Accessibility**

The web based client should be accessible by users with access to a computer with the required operating systems as well as the internet; in addition, the application must be accessible from a smart phone or tablet. Integrity of data should be guaranteed with restricted access to the application.

The application should incorporate the following features:

**a) Restricted roles based access**

Registration of users through the web based application

**b) Security Requirements**

Secure socket layer (SSL) over http

Time out connection, application to automatically log out user out after a period of inactivity

#### **3.2.7.1.2 Dashboard requirements**

The application should present the user with a dashboard summary and give them access to monitor the meters and the data Concentrator also include:

**a) Meter management, detailing:**

- i) The number of meters in tamper
- ii) The number of meters experiencing an error
- iii) The number of meters with a low credit value

**b) Concentrator Unit management, detailing:**

- i) The number of concentrator units currently online
- ii) Notifications indicating the hardware faults in the last 24 hours
- iii) System information to provide a description of the meter, model number, description and version.
- iv) Tool bar with links to hardware components and report functions.

#### **3.2.7.1.3 Meter management requirements**

The Meter management feature should allow the user to view the following meter data.

- a) List of all meters, per concentrator unit.
- b) Meter serial number
- c) Meter model number and description
- d) Geo location details of the meter
- e) User credit of the meter
- f) Meter consumption total to date
- g) Warnings (if present)
- h) Details of the Concentrator Unit linked to the meter including status (online/offline)
- i) Virtual registers of the meter
- j) Meter mailbox (record and status of all messages played to the meter)
- k) View the status of the meter, including:
  - i) Tamper switch status
  - ii) Low credit status
  - iii) Over voltage status
  - iv) Under voltage status

- v) EEPROM Error status
- vi) Showing of coordinates on the monitoring system of the meter and Data concentrator.
- vii) ICT to have live information dumped into the internal server

#### **3.2.7.1.4 The Meter management feature**

Should allow the operator or user to perform the following Operations on each meter.

- a) Profile meter
- b) Perform a basic meter scan
- c) Play specific token
- d) Play STS token
- e) Play service token (remote connect/disconnect)
- f) Refresh meter data
- g) Read and write to virtual register tables

#### **3.2.7.1.5 Concentrator Unit management requirements**

- a) The Concentrator Unit should provide a link between the front and head-end system.
- b) The Concentrator Unit should be responsible for the routine collection, storage and Communication of metering data.
- c) The Concentrator Unit should serve as a primary means of remote communication and hence must be capable of reading and writing data to and from the metering devices.

#### **3.2.7.1.6 The Concentrator Unit management feature**

Should allow the user to view the following data:

- a) List of all Concentrator units
- b) Unit ID's
- c) Serial number and model number
- d) IP address of the unit
- e) View the status of the concentrator unit, including:
- f) Firmware version
- g) Geo location details of the unit
- h) The time and date last seen
- i) Online status
- j) Concentrator Unit mailbox (record and status of all messages played to the meter)
- k) Meter list of all meters connected to a specific Concentrator unit
- l) Redundancy: should indicate if a meter is being detected by more than one Concentrator unit
- m) Proximity: should indicate the approximate distance between the Concentrator Unit and the specified meter
- n) Signal strength: should the strength signal between the meter and the Concentrator unit
- o) Link quality: should display the quality of the PLC signal between the meter and the Concentrator unit

#### **3.2.7.1.7 The Concentrator Unit management feature**

should allow the operator to user to perform the following operations:

- a) Cease communication with the Concentrator unit

- b) Force discovery: initiate an immediate discovery of meters in the PLC proximity of the Concentrator Unit
- c) Remotely upgrade the firmware of any selected Concentrator unit

### 3.2.7.1.8 Event and alert notification requirements

The AMI communication server and its elected recipients should be notified by the Concentrator Unit of events occurring within the Concentrator Unit or metering devices. These events should be logged with date and time stamps and should be retrieved remotely by the communications server. The Concentrator Unit should immediately establish a connection with the communications server when a notification event occurs and report the type of event on demand. All tamper events should be logged by the Concentrator Unit. Recipients should be alerted about events through SMS and/or e-mail facilities.

The notifications should be classified according to three different areas:

- a) Meter faults
- b) Concentrator Unit faults
- c) Hardware faults

The following notification events should be supported:

Metering events	Concentrator Unit events
Meter tamper	New meters discovered
Low Credit	New metering data available
Over/under voltage	Change in configuration
Under frequency	Concentrator Unit tamper conditions: Enclosure tampering Antenna tampering Suspicious communications packets Serial port authentication failures
Meter failure (EEPROM error)	Hardware faults: Battery fault File system or EEPROM fault Communications module fault Date and time lost Unknown reason for reset (or WDT reset)
	Incomplete/expired communications process
	Loss of power and battery low

### 3.2.7.1.9 The user should be able to view the following information through the notification management:

- a) List of meter
- b) Concentrator Unit
- c) hardware faults
- d) The incident description, date, time and serial number of the affected hardware
- e) Recipient details

#### **3.2.7.1.10 System management requirements**

The system management feature should provide a detailed description of all meter data, including the following:

- a) Meter model number
- b) Meter description
- c) Meter version
- d) Virtual registers (Meters)
- e) Meter token types.

#### **3.2.7.1.11 Report generation requirements**

The application should be able to generate the following reports or reports as per the customer's request:

- a) Meter summary report
- b) Meter weekly consumption report
- c) Meter hourly consumption report
- d) Meter monthly consumption report
- e) Per zone consumption report

#### **3.2.7.1.12 Meter summary report should detail the following information:**

- a) Meter serial number
- b) Meter reading, cost per kWh, reading date

#### **3.2.7.1.13 Meter weekly consumption report should detail the following information:**

- a) Usage for the Current week (kWh)
- b) Usage for the Last week (kWh)
- c) Usage for the Current month (kWh)
- d) Usage for the Last month (kWh)
- e) Consumption for a specific day (kWh)
- f) Consumption by weekday (per half an hour in kWh)
- g) Detailed usage indicates the serial number of the meter and the consumption per Meter as well as the Meter total to date.

### **3.2.8 Item 4.2.7.2 Front end hardware requirements**

#### **3.2.8.1 The AMI system is to incorporate the following hardware components:**

- a) The meter
- b) PLC G3 concentrator units

#### **3.2.8.2 The meters require SABS and STS approval and are required to support the following functions:**

- a) Power overload
- b) Current overload
- c) Over/under voltage
- d) Delayed reconnection
- e) Thermal overload
- f) Line/load reversal
- g) Extreme current overload



- h) Tamper detection
- i) Prepaid and post-paid
- j) Configurable emergency credit regions

### **3.2.8.3 PLC G3 enabled concentrator units**

The concentrator units are required to support the following functions:

- a) Automatic discovery of electricity meters
- b) Remote meter reading
- c) Event notification (metering events)
- d) Tamper detection
- e) STS Token delivery
- f) GPS for time synchronisation and location
- g) LCD display for local configuration
- h) Remotely Upgradeable
- i) Battery backed-up real time clock
- j) USB interface for system configuration and data retrieval
- k) Battery backed up – Last gasp communications support
- l) Plug-in communication module slots – upgradeable

### **3.2.9 Item 2.1.7.3 Alternate offer to item 2.1.7.1**

This item is reserved for an alternate offer to item 2.1.7 .1 The Municipality may consider the purchasing of the AMI software & hardware instead of being hosted. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves to right to make an award on this item.

### **3.2.10 Item 2.2.8 Technical Support**

Technical support will be needed for the following but not limited to:

- a) Setting up of the AMI.
- b) Problem solving of AMI
- c) 24 hour direct customer call center desk access
- d) IT personal for customizing report layouts
- e) Back up of information on head end system
- f) etc

### **3.2.11 Item 4.1.9 Training**

Msunduzi technical staff will require training, and be certified competent on the following by the supplier, but not limited to,

- a) Correctly install the meters
- b) Correctly install concentrator units and other devices
- c) Correctly produce tokens and make settings to the meters
- d) Correctly use the hosted platform software
- e) Correctly read the meters totals, via remotely or manually
- f) Correctly produce reports

**NB. Provisions are made on the pricing schedule for training at Suppliers offices, or Msunduzi Offices.**

### **3.2.12 Item 2.1.10 – Accuracy Testing of meters**

- a) This service is required by the supplier of the meters to do all meters testing for the accuracy of the meters and to provide certificate of compliance confirmation of the results.

### 3.2.13 Item 2.1.11 – Accessories replacements

This space is reserved for all replacement items / consumables that may be required such as:

- a) Replacement token purchase cards
- b) Tamper clips / Terminal covers
- c) CIU batteries
- d) Concentrator batteries
- e) Antennas
- f) MOV

### 3.3 Markings on the Split type meter system

The meter and the Customer interface unit shall be marked as follows:

- a) Manufacturer's name
- b) Manufacturer's model number
- c) "Property of Msunduzi Municipality"
- d) Meter serial number
- e) Bar coded meter number (complete number) as specified in the STS document.
- f) Terminal identification
- g) STS compliant symbol
- h) Date of manufacture
- i) The voltage, current and frequency rating
- j) Accuracy class index
- k) Impulse per kWh.

## 3.0 TECHNICAL SPECIFICATION

### 3.1 Normative References: General

The following document contains provisions that, through reference in the text, constitute requirements of this specification. All standards and specifications are subject to revision, and parties are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

STANDARD	DESCRIPTION
BS 7856	Specification for special design and other features of alternating current watthour meters for active energy for use in the UK (Accuracy Classes A and B)
CENELEC EN 50065-1	Signalling on Low-Voltage Electrical Installations in the Frequency range 3kHz to 148,5 kHz - Part 1: General Requirements, Frequency bands and Electromagnetic Disturbances
CISPR 22	Standard for Information Technology Equipment-Radio Disturbance Characteristics-Limits and Methods of Measurement.
COSEM	Companion Specification for Energy Metering

DLMS	Device Language Message specification
DSP 34-1527	Eskom specification: Procedure for producing software process assessment documents
DSP 34-1635	Eskom Specification: Particular requirements for prepayment meters
DSP 34-749	Eskom specification: Standard for sealing metering equipment
EN 50065-1	Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148.5 kHz - Part 1: General requirements, frequency bands and electromagnetic disturbances; German version EN 50065-1:2011
EN 62054-21	Electricity metering equipment (a.c.). Tariff and load control. Particular requirements for time switches
IEC 60068-2-27	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock
IEC 60068-2-6	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)
IEC 60695-2-1	Fire hazard testing - Part 2: Test methods - Section 1: Glow-wire test and guidance
IEC 60950	Information technology equipment - Safety - Part 1: General requirements
IEC 61000-4-2	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
IEC 61000-4-3	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
IEC 61000-4-4	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test
IEC 61000-4-6	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61334-4-41	Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 41: Application protocol - Distribution line message specification
IEC 61334-5-2	Distribution automation using distribution line carrier systems - Part 5-2: Lower layer profiles - Frequency shift keying (FSK) profile
IEC 62052-11	Electricity metering equipment (a.c.) - General requirements, tests and test conditions - Part 11: Metering equipment
IEC 62053-21	Electricity metering equipment (a.c.) - Particular requirements - Part 21: Static meters for active energy (classes 1 and 2)
IEC 62053-23	Electricity metering equipment (a.c.) - Particular requirements -Part 23: Static meters for reactive energy (classes 2 and 3)

IEC 62055-21	Electricity metering - Payment systems - Part 21: Framework for standardization
IEC 62055-31	Electricity metering - Payment systems - Part 31: Particular requirements - Static payment meters for active energy (classes 1 and 2)
IEC 62055-41	Electricity metering – Payment systems – Part 41: Standard transfer specification (STS) – Application layer protocol for one-way token carrier systems
IEC 62055-51	Electricity metering - Payment systems - Part 51: Standard transfer specification (STS) - Physical layer protocol for one-way numeric and magnetic card token carriers
IEC 62055-52	Electricity metering - Payment systems - Part 52: Standard transfer specification (STS) - Physical layer protocol for a two-way virtual token carrier for direct local connection
IEC 62056-21	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange
IEC13239	Information Technology - Telecommunications and Information Exchange between Systems - High-Level Data Link Control (HDLC) Procedures
ISO 14001:2004	Environmental management systems
ISO 18001: 2007	Information technology -- Radio frequency identification for item management
ISO 4757-1983	Cross recesses for screws
ISO 9001:2008	Quality management
ITU-T G.9903	Narrowband orthogonal frequency division multiplexing power line communication transceivers for G3-PLC networks
OFDM G3-PLC	OFDM (orthogonal frequency-division multiplexing)-based powerline communication (PLC) specification
OHSAS 18001:2007	Occupational health and safety management systems
SANS 1524-1	Electricity payment systems Part 1: Payment meters
SANS 15417	Information technology - Automatic identification and data capture techniques - Code 128 bar code symbology specification
SANS 61643-1	Low-voltage surge protective devices Part 1: Surge protective devices connected to low-voltage power distribution systems - Requirements and tests
UL94-V0	Standard for Tests for Flammability of Plastic Materials for Parts in Devices

### 3.2 Items 2.2.1 & 2.2.2

#### Introduction to Split type meters with RF Communication

The Split type Electricity Meters are used in the Msunduzi Municipality's distribution networks for revenue management in controlling the sale of electricity to its customers. These meters should provide for accounting, data collection and processing to aid administration of the meters and it should provide safeguards against fraud.

### **3.2.1 General requirements for split type meters with RF Communication for both Single Phase & Three phase meters**

#### **3.2.1.1 Measurement: Accuracy class**

The split configuration meter should comply with class 1 accuracy over the full IEC62052-11 dynamic range. The meter should operate at an accuracy of Class 2 over an extended voltage range of  $0.5U_n \leq U_n \leq 1.15U_n$

#### **3.2.1.2 Accounting: Prepayment credit management**

The split configuration meter should be configured to operate as either a prepayment or post payment meter. Changing the mode of operation should be accomplished during production or via meter specific STS configuration tokens. In the prepayment configuration all accounting functionality is as per standard prepayment requirements. In a post payment configuration the consumer is billed in arrears for electricity consumed

#### **3.2.1.3 Consumption data**

The meter must provide the following historical view of consumption.

- a) Meter total consumption to date
- b) User total consumption to date
- c) Average daily consumption
- d) Average 30 day consumption
- e) Previous hour's consumption
- f) Previous day's consumption
- g) Previous 30 days consumption

#### **3.2.1.4 Protection Features**

The following features must be employed as protection features for both Municipal consumer's appliances and the meter.

- a) Power overload. The consumer's load will disconnect if the consumed power exceeds this STS configure threshold.
- b) Current Overload. When the consumer draws current in excess of the current (the value derived from  $I = \text{Power} / V_{\text{nominal}}$ )
- c) Thermal overload. When the meter's operational temperature reaches above the maximum operating temperature – at which stage the meter's life expectancy would be compromised.
- d) Over Voltage. The meter should include a configurable threshold above which the meter would disconnect the consumers load.
- e) Under Voltage. The meter should include a configurable threshold below which the meter would disconnect the consumers load.
- f) Line / Load reversal. If the live line and live load terminal are reversed and power is seen to be exported from the meter onto the line, the load switch must disconnect the consumer's supply.

- g) Tamper functionality. The meter should include a tamper detection functionality whereby should the terminal cover be tampered with or removed then a tamper detection would be registered.

#### **3.2.1.5 Delayed reconnection after AC supply interruption**

When the AC supply is restored the meter should not reconnect the consumer's supply immediately. Reconnection should be accomplished within a variable period which is less than the 30 seconds of the AC supply resumption. This is to reduce the inrush current of the system when supply is resumed. The corollary is that when the supply is interrupted the consumer's supply is disconnected from the grid supply.

#### **3.2.1.6 Token processing**

The primary token carrier is the keypad. Tokens may be entered into the meter via the CIU keypad or a VTC port (direct probe or FLAGS port). The primary encryption method, as defined by STS is STA and this is available through a virtual address read command.

#### **3.2.1.7 Token types**

The meter should support all STS token types detailed in IEC62055-41 and DSP34-1635. In addition the meter should support a commissioning and decommissioning token with the associated procedures that allow the installation of the meter with the tamper detection disabled and the consumer's load permanently disconnected, until such time as the meter is commissioned. Thereafter tamper detection should become active and the consumer's load should be connected. Entering the decommissioning token should disable tamper functionality and also disconnect the consumers load.

#### **3.2.1.8 STS token history**

The meter should be able to display the following token information:  
The last 10 meter specific STS tokens, with the actual 20 digits entered, the class and subclass of the tokens, and where valid, the value of the token.  
The last 5 credit tokens entered

#### **3.2.2 - Item 2.2.3 Customer interface unit**

Refer to annexure 3 for specification.

#### **3.2.3 - Item 2.2.4 Alternate offers to split type metering to item 2.2.1**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.1. A complete product detail and specification is required to be submitted by the tenderer for evaluation & the Municipality reserves the right to make an award on this item.

#### **3.2.4 - Item 2.2.5 Alternate offer to split type metering to item 2.2.2**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.2. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves the right to make an award on this item.

### **3.2.5 - Item 2.2.6 Alternate offer to Customer interface unit to item 2.2.3**

This item is reserved for an alternate offer that does not comply with the specification for item number 2.2.3. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves the right to make an award on this item.

### **3.3 Item 2.2.7 - Advanced Metering Infrastructure (AMI) for RF metering**

- a) The AMI system is an infrastructure for two-way communication between a meter and the Utility. The objective of the AMI system is to provide the Electricity Utility with real-time data about energy consumption and allow them to remotely manage their metering devices. It should also allow its consumers to make informed choices about their energy consumption.
- b) The Municipality requires the provision of a **hosted** platform Advanced Metering Infrastructure system that facilitates the remote management of meters. This system must be compatible with meters in items 2.2.1 & 2.2.2 above. Failure to comply with the compatibility will result in a disqualification for this item.

#### **3.3.1 AMI product overview**

With the AMI system, the user should be able to perform the following functions and more:

- a) Collection of data from meters
- b) Remotely send data and tokens to meters
- c) Perform load balancing
- d) Generate profiling reports
- e) Perform demand side management
- f) Event and alert notifications

#### **3.3.2 Functional components**

The AMI system should comprise of the following components:

##### **a) Head End**

- i) Communication Server
- ii) Web based client

##### **b) Front End**

- i) Concentrator unit and accessories
- ii) Advanced Meter and Accessories
- iii) Wireless Extender

#### **3.3.3 Technology and system requirements**

The AMI Communication Server should meet the following technology and system requirements for supported operation systems:

- f) Windows 10
- g) Windows 8
- h) Windows 7
- i) Windows Server 2012

j) Windows Server 2008

Supported web servers: Internet Information Service (IIS) 7.0 or above

ASP.NET 4.5 (MVC 4.0) the .NET Framework 4.0.

Relational database supported: MS SQL

Supported browsers:

Microsoft Internet Explorer 8.0 and above

Mozilla Firefox 2.0 and above

Google Chrome 1.x

Apple Safari 2.x

### **3.3.4 Item 2.2.7.1 - Head End requirements**

#### **3.3.4.1 Accessibility**

The web based client should be accessible by users with access to a computer with the required operating systems as well as the internet; in addition, the application must be accessible from a smart phone or tablet. Integrity of data should be guaranteed with restricted access to the application.

The application should incorporate the following features:

##### **a) Restricted roles based access**

Registration of users through the web based application

##### **b) Security Requirements**

Secure socket layer (SSL) over http

Time out connection, application to automatically log out user out after a period of inactivity

#### **3.3.4.2 Dashboard requirements**

The application should present the user with a dashboard summary and include:

##### **a) Meter management, detailing:**

- i) The number of meters in tamper
- ii) The number of meters experiencing an error
- iii) The number of meters with a low credit value

##### **b) Concentrator Unit management, detailing:**

- i) The number of concentrator units currently online
- ii) Notifications indicating the hardware faults in the last 24 hours
- iii) System information to provide a description of the meter, model number, description and version.
- iv) Tool bar with links to hardware components and report functions.

#### **3.3.4.3 Meter management requirements**

The Meter management feature should allow the user to view the following meter data.



- a) List of all meters within RF range, up to 500 meters per concentrator unit.
- b) Meter serial number
- c) Meter model number and description
- d) Geo location details of the meter
- e) User credit of the meter
- f) Meter consumption total to date
- g) Warnings (if present)
- h) Details of the Concentrator Unit linked to the meter including status (online/offline)
- i) Virtual registers of the meter
- j) Meter mailbox (record and status of all messages played to the meter)
- k) View the status of the meter, including:
  - i) Tamper switch status
  - ii) Low credit status
  - iii) Over voltage status
  - iv) Under voltage status
  - v) EEPROM Error status

#### **3.3.4.4 The Meter management feature**

Should allow the operator to user to perform the following Operations on each meter.

- a) Profile meter
- b) Perform a basic meter scan
- c) Play specific token
- d) Play STS token
- e) Play service token (remote connect/disconnect)
- f) Refresh meter data
- g) Read and write to virtual register tables

#### **3.3.4.5 Concentrator Unit management requirements**

- a) The Concentrator Unit should provide a link between the front and head-end system.
- b) The Concentrator Unit should be responsible for the routine collection, storage and Communication of metering data.
- c) The Concentrator Unit should serve as a primary means of remote communication and hence must be capable of reading and writing data to and from the metering devices.
- d) A single Concentrator Unit should have the ability to read up to 500 meters within the RF range.
- e) If there are more than 500 meters within the RF range, the meters with the strongest RF signal strength and link quality should be listed

#### **3.3.4.6 The Concentrator Unit management feature**

Should allow the user to view the following data:

- a) List of all Concentrator units
- b) Unit ID's
- c) Serial number and model number
- d) IP address of the unit
- e) View the status of the concentrator unit, including:
- f) Firmware version

- g) Geo location details of the unit
- h) The time and date last seen
- i) Online status
- j) Concentrator Unit mailbox (record and status of all messages played to the meter)
- k) Meter list of all meters connected to a specific Concentrator unit
- l) Redundancy: should indicate if a meter is being detected by more than one Concentrator unit
- m) Proximity: should indicate the approximate distance between the Concentrator Unit and the specified meter
- n) Signal strength: should indicate the strength of the RF signal between the meter and the Concentrator unit
- o) Link quality: should display the quality of the RF signal between the meter and the Concentrator unit

#### **3.3.4.7 The Concentrator Unit management feature**

should allow the operator to user to perform the following operations:

- a) Cease communication with the Concentrator unit
- b) Force discovery: initiate an immediate discovery of meters in the RF proximity of the Concentrator Unit
- c) Remotely upgrade the firmware of any selected Concentrator unit

#### **3.3.4.8 Wireless range extender management requirements**

The Wireless extender should increase the range between the wireless keypad and the wireless meter. The range extender should operate to ensure consistent communication between the devices

#### **3.3.4.9 The Wireless range extender management feature**

should allow the user to view the following data:

- a) List of all extender's
- b) Geo location details of the extenders
- c) Serial number and model number
- d) Installation status
- e) Details of the Concentrator units that the extender is linked to

#### **3.3.4.10 Event and alert notification requirements**

The AMI communication server and its elected recipients should be notified by the Concentrator Unit of events occurring within the Concentrator Unit or metering devices. These events should be logged with date and time stamps and should be retrieved remotely by the communications server. The Concentrator Unit should immediately establish a connection with the communications server when a notification event occurs and report the type of event on demand. All tamper events should be logged by the Concentrator Unit. Recipients should be alerted about events through SMS and/or e-mail facilities.

The notifications should be classified according to three different areas:

- a) Meter faults

- b) Concentrator Unit faults
- c) Hardware faults

The following notification events should be supported:

Metering events	Concentrator Unit events
Meter tamper	New meters discovered
Low Credit	New metering data available
Over/under voltage	Change in configuration
Under frequency	Concentrator Unit tamper conditions: Enclosure tampering RF Jamming detection Antenna tampering Suspicious communications packets Serial port authentication failures
Meter failure (EEPROM error)	Hardware faults: Battery fault File system or EEPROM fault Communications module fault Date and time lost Unknown reason for reset (or WDT reset)
	Incomplete/expired communications process
	Loss of power and battery low

#### **3.3.4.11 The user should be able to view the following information through the notification management:**

- a) List of meter
- b) Concentrator Unit
- c) hardware faults
- d) The incident description, date, time and serial number of the affected hardware
- e) Recipient details

#### **3.3.4.12 System management requirements**

The system management feature should provide a detailed description of all meter data, including the following:

- a) Meter model number
- b) Meter description
- c) Meter version
- d) Virtual registers (Meters)
- e) Meter token types.

#### **3.3.4.13 Report generation requirements**

The application should be able to generate the following reports or reports as per the customer's request:

- a) Meter summary report
- b) Meter weekly consumption report
- c) Meter hourly consumption report
- d) Meter monthly consumption report
- e) Per zone consumption report

#### **3.3.4.14 Meter summary report should detail the following information:**

- a) Meter serial number
- b) Meter reading, cost per kWh, reading date
- c) Previous day's consumption
- d) Last seven days consumption
- e) Last 30 days consumption

**3.3.4.15 Meter weekly consumption report should detail the following information:**

- a) Usage for the Current week (kWh)
- b) Usage for the Last week (kWh)
- c) Usage for the Current month (kWh)
- d) Usage for the Last month (kWh)
- e) Consumption for a specific day (kWh)
- f) Consumption by weekday (per half an hour in kWh)
- g) Detailed usage indicates the serial number of the meter and the consumption per Meter as well as the Meter total to date.

**3.3.5 Item 2.2.7.2 Front end hardware requirement**

**3.3.5.1 The AMI system is to incorporate the following hardware components:**

- a) The meter
- b) Wireless enabled concentrator units
- c) Wireless range extender

**3.3.5.2 The meters require SABS and STS approval and are required to support the following functions:**

- a) Power overload
- b) Current overload
- c) Over/under voltage
- d) Delayed reconnection
- e) Thermal overload
- f) Line/load reversal
- g) Extreme current overload
- h) Tamper detection
- i) Prepaid and post-paid
- j) Configurable emergency credit regions

**3.3.5.3 Wireless enabled concentrator units**

The concentrator units are required to support the following functions:

- a) Automatic discovery of electricity meters
- b) Remote meter reading
- c) Event notification (metering events)
- d) Tamper detection
- e) STS Token delivery
- f) GPS for time synchronisation and location
- g) LCD display for local configuration
- h) Remotely Upgradeable
- i) Battery backed-up real time clock
- j) USB interface for system configuration and data retrieval

- k) Battery backed up – Last gasp communications support
- l) Plug-in communication module slots - upgradeable

### **3.3.6 Item 2.3.3.1 Alternate offer to item 2.2.7.1**

This item is reserved for an alternate offer to item 2.2.7 .1 The Municipality may consider the purchasing of the AMI software & hardware instead of being hosted. A complete product detail and specification is required to be submitted by the tenderer for evaluation. The Municipality reserves to right to make an award on this item.

### **3.3.7 Item 2.2.8 Technical Support**

Technical support may be needed during the initial stages of getting the AMI to function as required. And may require the reporting layouts to be customized such that it is suitable for the needs of Msunduzi Municipality. In such instances these amendments will be required to be effected on the Head end systems.

### **3.3.8 Item 2.2.9 Training**

Msunduzi technical staff will require training and be certified competent on the following, but not limited to,

- a) Correctly install the meters
- b) Correctly install concentrator units and other devices
- c) Correctly produce tokens and make settings to the meters
- d) Correctly use the hosted platform software
- e) Correctly read the meters totals, via remotely or manually
- f) Correctly produce reports

**NB. Provisions are made on the pricing schedule for training at Suppliers offices, or Msunduzi Offices.**

### **3.3.9 Item 2.2.10 – Accuracy Testing of meters**

- a) This service is required by the supplier of the meters to do random batch testing for the accuracy of the meters and to provide written confirmation of the results.
- b) Customers of Msunduzi Municipality have the option to query the accuracy of the meters and may claim against the municipality, therefore meters will be sent for verification and testing.

### **3.3.10 Item 2.2.11 – Accessories replacements**

This space is reserved for all replacement items that may be required such as

- a) Replacement token purchase cards
- b) Tamper clips / Terminal covers
- c) CIU batteries
- d) Concentrator batteries
- e) Antennas
- f) MOV

## **3.4 SAMPLES**

Correctly labelled samples are required to be delivered to 111 Havelock Road, with the tender documents to City Hall offices. Failure to provide a sample will disqualify that item and will not proceed for further adjudication. Samples are required for the following items numbers:

ITEM NUMBER	DESCRIPTION	SAMPLE TYPE
2.1.1	Split type single phase electricity meter (Dual Pre & Post Paid)	Physical item
2.1.2	Split type three phase electricity meter (Dual Pre & Post Paid)	Physical item
	Split type Bidirectional Meter	Physical item
2.1.3	Customer interface unit	Physical item
2.1.4	Alternate offer to split type metering to item 2.1.1	Physical item
2.1.5	Alternate offer to split type metering to item 2.1.2	Physical item
2.1.6	Alternate offer to Customer interface unit to item 2.1.3	Physical item
2.1.7.1	Hosted Head end : Engineering & meter management Software	Screen shots of web based dash boards & reports
2.1.7.2	Front end hardware : Concentrator units & accessories	Physical item

### 3.5 ANNEXURES

1	Specification Compliance Scoring for Item No. 2.1.1	Split type single phase electricity meter (Dual Pre & Post Paid)
2	Specification Compliance Scoring for Item No. 2.1.2	Split type three phase electricity meter (Dual Pre & Post Paid)
3	Specification Compliance Scoring for Item No. 2.1.3	Customer interface unit
4	Specification Compliance Scoring for Item No. 2.1.7.1	Hosted Head end: Engineering & meter management Software
5	Pricing schedule	
6	Bidirectional Checklist	

Correctly labelled samples are required to be delivered to 111 Havelock Rd Electricity , the tender documents to City Hall offices. Failure to provide a sample will disqualify that item and will not proceed for further adjudication. Samples are required for the following items numbers:

ITEM NUMBER	DESCRIPTION	SAMPLE TYPE
2.2.1	Split type single phase electricity meter (Dual Pre & Post Paid)	Physical item
2.2.2	Split type three phase electricity meter (Dual Pre & Post Paid)	Physical item
	Split type single /three Phase Bidirectional	Physical item
2.2.3	Customer interface unit	Physical item

2.2.4	Alternate offer to split type metering to item 2.2.1	Physical item
2.2.5	Alternate offer to split type metering to item 2.2.2	Physical item
2.2.6	Alternate offer to Customer interface unit to item 2.2.3	Physical item
2.2.7.1	Hosted Head end : Engineering & meter management Software	Screen shots of web based dash boards & reports
2.2.7.2	Front end hardware : Concentrator units & accessories	Physical item

### 3.7 ANNEXURES

1	Specification Compliance Scoring for Item No. 2.2.1	Split type single phase electricity meter (Dual Pre & Post Paid)
2	Specification Compliance Scoring for Item No. 2.2.2	Split type three phase electricity meter (Dual Pre & Post Paid)
3	Specification Compliance Scoring for Item No. 2.2.3	Customer interface unit
4	Specification Compliance Scoring for Item No. 2.2.7.1	Hosted Head end: Engineering & meter management Software
5	Pricing schedule	

#### 4.0 **CONTACT PERSONS**

For any technical related enquiries, please contact

Name: Mr. T. W. Zalisa

Phone No: 033 392 5123

Email address: [thandisizwe.zalisa@msunduzi.gov.za](mailto:thandisizwe.zalisa@msunduzi.gov.za)

#### 5.0 **CONTRACT PERIOD**

The contract period will be for a maximum of three (3) years from the date of final award.

#### 6.0 **PLACE OF DELIVERY AND DELIVERY PERIOD**

5.1 All items shall be delivered to the:  
Msunduzi Municipal Stores  
2 Abattoir Road  
Pietermaritzburg

5.2 The supplier must bear the cost of delivery.

5.3 Delivery includes “**off-loading**” at the above address

5.4 The supplier must provide suitable lifting equipment and personnel to ensure safe offloading of these goods.

5.5 The delivery period is dependent on quantity as stipulated on the pricing schedule attached.

#### 7.0 **SITE MEETINGS**

N/A

## **8.0 COMPLIANCE WITH ANY LEGISLATION, BYLAWS, ETC.**

- Occupational Health and Safety Act
- MFMA
- GCC, General conditions of contract Issued by National Treasury
- NRS057

## **9.0 ESCALATION**

Prices are fixed during the first year of the contract, thereafter escalation as per CPIX is applicable for the second and third year and prices adjusted accordingly.

## **10.0 GUARANTEE/WARRANTY/DEFECTS LIABILITY PERIOD**

- The Defects Liability Period is 12 calendar months.

## **11.0 PENALTIES**

- 11.1 Should the successful tenderer fail to successfully supply & deliver the equipment within the specified period as stipulated in the pricing Schedule herein, penalties to the amount of 3 % of the total ORDER VALUE, per calendar day shall be levied for a maximum of 30 days.
- 11.2 Once the penalty period has exceeded 30 days, the existing contract & orders will be terminated.
- 11.3 The contract shall not be deemed to be complete until such time the equipment is delivered in its entirety and to the satisfaction of the Electricity Department & General Stores.
- 11.4 Penalty monies shall be deducted from any monies due to the Supplier, or which shall become due to the Supplier. No reduction in the penalty shall be entertained for partial supply of the equipment.

## **12.0 MATERIALS**

Most electricity meters are manufactured from a combination of plastics, glass and populated pc boards. SABS and IEC standards will apply, please refer the Technical Specification for more references to the quality standards.

## **13.0 SAMPLES**

- 13.1 Correctly labelled samples must be submitted for evaluation prior to tender closing, Failure to comply with above, will nullify the tendered item bid.
- 13.2 The supplier shall supply the sample at their own cost.
- 13.3 Msunduzi Municipality reserves the right to submit samples to such tests as deemed reasonable and necessary.
- 13.4 Where a bid is accepted for the supply of goods according to a sample submitted by the bidder, such sample will become the contract sample and will be retained by Msunduzi Municipality
- 13.5 Unsuccessful bidders shall collect and remove their samples within one month of being notified that their bids have not been successful, failing which they will be deemed to have waived all rights to the samples and such samples not collected after one month from the date of such notification will become the property of the Msunduzi Municipality for disposal at its discretion.



13.6 Bidders are required to note that bid documents must **not** be included in parcels containing samples.

13.7 Samples shall be delivered before the closing time and date of tender to the electricity

Electricity Department's reception with a delivery note.

The electricity Department address is as follows

111 Havelock Road

Pietermaritzburg

Office hours are Monday to Friday, from 07:00 to 16:00

13.8 A written duplicate sample delivery note which will be acknowledge by Metering Official and Receptionist as proof of submission of relevant sample.

#### **14.0 EVALUATION CRITERIA**

Threshold to be used for this contract will be 80/20

The allocation of Preference Points will be according to the following Specific Goals:

<b>Specific Goals</b>	<b>Description</b>	<b>Maximum Points</b>
Race	At least 51% South African Black Ownership and/or more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	10
Gender	At least 20% South African Women Ownership.more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	5
Youth	At least 20% South African Youth Ownership. more than 51% management control by South African Black people [Black Owned Enterprise (BOE)].	5
<b>Total Preference Points (Ownership Specific Goals)</b>		<b>20</b>

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**PRICING SCHEDULE**

<b>ANNEXURE 5</b>	<b>PRICING SCHEDULE</b>			<b>E8 OF 2024</b>
<b>ITEM NUMBER</b>	<b>ITEM DESCRIPTION</b>	<b>DELIVERY PERIOD</b>	<b>UNIT</b>	<b>UNIT PRICE EX VAT (R )</b>
<b>2.1 PLC G3 communication</b>				
2.1.1	Split type single phase electricity meter (Dual Pre & Post Paid) with display	1000/2 weeks	Each	
2.1.2	Split type three phase electricity meter (Dual Pre & Post Paid) with display	1000/2 weeks	Each	
2.1.3	Customer interface unit	1000/2 weeks	Each	
SUBTOTAL				
2.1.4	Alternate offers to split type metering to item 2.2.1	1000/2 weeks	Each	
2.1.5	Alternate offer to split type metering to item 2.2.2	1000/2 weeks	Each	
2.1.6	Alternate offer to Customer interface unit to item 2.2.3	1000/2 weeks	Each	
<b>2.1.7 Advanced Metering Infrastructure PLC G3 communication</b>				
2.1.7.1	Hosted head end : Engineering & meter management Software	Per month	R/meter/month	
2.1.7.2	Front End Hardware: Concentrator units & accessories	10 /week	Each	
2.1.7.3	Alternate offer to item 2.2.7.1 : Purchase and installation of engineering & meter management Software	1 month	Each	
2.1.8	Technical Support	per month	R/month	
2.1.9	<b>Training As &amp; When required (R/ per person)</b>	<b>At Supplier premises</b>	<b>At Municipal offices</b>	
a	Correctly install the meters			

b	Correctly install concentrator units and other devices			
c	Correctly produce tokens and make settings to the meters			
d	Correctly use the hosted platform software			
e	Correctly read the meters totals, via remotely or manually			
f	Correctly produce reports			
2.1.10	Accuracy testing of meters	1/week	Each	
<b>2.1.11 Accessories replacements</b>				
a	Replacement of token purchase cards	10/week	Each	
b	Tamper clips / Terminal covers	10/week	Each	
c	CIU batteries	10/week	Each	
d	Concentrator batteries	10/week	Each	
e	antennas	10/week	Each	

**SIGNED ON BEHALF OF THE TENDERER:**

Name of Tenderer .....

Name of Signatory: .....

Capacity of Signatory: .....

Signature ..... Date .....>.....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 1: INVITATION TO BID**  
**PART A**

**YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE MSUNDUZI MUNICIPALITY**

BID NUMBER:	SS E8 OF 2024	CLOSING DATE:	25/11/2024	CLOSING TIME:	12H00
DESCRIPTION	SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)				

**THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM**

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX AT:

MSUNDUZI MUNICIPALITY'S CENTRAL STORES

2 ABATTOR ROAD (off Kershaw Street),

PIETERMARITZBURG

3201

**SUPPLIER INFORMATION**

NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED? <input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]		

<b>TOTAL NUMBER OF ITEMS OFFERED</b>		<b>TOTAL BID PRICE</b>	<b>R</b>
<b>SIGNATURE OF BIDDER</b>		<b>DATE</b>	
<b>CAPACITY UNDER WHICH THIS BID IS SIGNED</b>			
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>		<b>TECHNICAL INFORMATION MAY BE DIRECTED TO:</b>	
DEPARTMENT	SCM UNIT	CONTACT PERSON	Thandizwe Zalisa
CONTACT PERSON	Phiwe Mthlane	TELEPHONE NUMBER	033 392 5123
TELEPHONE NUMBER	033 – 392 2486	CELLPHONE NUMBER	
FACSIMILE NUMBER		E-MAIL ADDRESS	SEE BELOW
E-MAIL ADDRESS	<a href="mailto:Phiwe.mthlane@msunduzi.gov.za">Phiwe.mthlane@msunduzi.gov.za</a>	<a href="mailto:thandizwe.zalisa@msunduzi.gov.za">thandizwe.zalisa@msunduzi.gov.za</a>	

## PART B

<b>1. BID SUBMISSION:</b>
<p>1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.</p> <p>1.2. <b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR <span style="color: red;">ONLINE</span></b></p> <p>1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.</p>
<b>2. TAX COMPLIANCE REQUIREMENTS</b>
<p>2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.</p> <p>2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.</p> <p>2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.</p> <p>2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.</p> <p>2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.</p> <p>2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.</p> <p>2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.</p>
<b>3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>
<p>3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span></p> <p>3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? <span style="float: right;"><input type="checkbox"/></span>                YES <input type="checkbox"/> NO</p> <p>3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span></p> <p>3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span></p> <p>3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span></p> <p><b>IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</b></p>

**NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.  
 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

SIGNATURE OF BIDDER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....

DATE: .....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 2: AUTHORITY TO SIGN DOCUMENT**

I/We\*, the undersigned, am/are\* duly authorised to sign the tender document on behalf of

.....

by virtue of the Articles of Association/Resolution of the Board of Directors\*, of which a certified  
copy is attached, or .....

Full Name of Signatory: .....

Capacity of Signatory: .....

Signature: .....

Date: .....

**Witnesses:-**

(1) Full Name: .....

Signature: .....Date.....

(2) Full Name: .....

Signature: .....Date.....

\* ***Delete whichever is inapplicable or complete as indicated if none are applicable.***

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 3: STATEMENT OF PREVIOUS EXPERIENCE**

The nomination of works, preferably of a similar nature to the works in this contract and which the Tenderer has successfully completed, is invited for adjudication purposes.

Tenderers are hereby required to complete the schedule below in its entirety.

Alternatively, Tenderers without experience may submit statements from a person or persons or organisation as to their abilities and standing in support of their tender, for adjudication purposes.

Failure to comply with either of these requirements shall lead to disqualification.

<b>Name of Company</b>	<b>Contact Person</b>	<b>Contact No.</b>	<b>Nature of Works</b>	<b>Value and Duration</b>

Signature ..... Date .....





**THE MSUNDUZI MUNICIPALITY**

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**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 5: DECLARATION OF MUNICIPAL FEES**

I/We do hereby declare that the Municipal Fees of \_\_\_\_\_  
Is/are, as at the date of the tender closing, fully paid up, or arrangements have been concluded  
with the Municipality to pay the said Fees:-

**Description**

**Account No.**

Electricity	_____
Water	_____
Rates	_____

I/We acknowledge that should it be found that the Municipal Fees are not up to date, the Council may take such remedial action as it required, including termination of contract, and any income due to the Contractor shall be utilised to offset any monies due to the Council.

Full Name of Signatory.....

Capacity of Signatory.....

I.D. Number.....

Duly Authorised to sign on behalf of :- .....

Physical Address.....

.....

Signature.....Date.....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 6: DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state<sup>1</sup>.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.

3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name of bidder or his or her representative:.....

3.2 Identity Number: .....

3.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>)

.....

3.4 Company Registration Number: .....

3.5 Tax Reference Number:.....

3.6 VAT Registration Number: .....

3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state? **YES / NO**

3.8.1 If yes, furnish particulars. ....

.....

<sup>1</sup>MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

(i) any municipal council;

(ii) any provincial legislature; or

(iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

<sup>2</sup> Shareholder” means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

3.9 Have you been in the service of the state for the past twelve months? **YES/ NO**

3.9.1 If yes, furnish particulars.....

.....

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES/ NO**

3.10.1 If yes, furnish particulars.....

.....

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.11.1 If yes, furnish particulars.....

.....

3.12 Are any of the company’s directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES/ NO**

3.12.1 If yes, furnish particulars.....

3.13 Are any spouse, child or parent of the company’s directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.13.1 If yes, furnish particulars.....

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? **YES / NO**

3.14.1 If yes, furnish particulars:.....

.....

4. Full details of Directors / Trustees / Members / Shareholders.

Full Name	Identity Number	State Employee Number

---

**Name of Signatory**

---

**Signature**

---

**Designation of the Deponent**

---

**Name of Bidder**

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 7: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN  
MANAGEMENT PRACTICES**

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
  - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 ***In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.***

Item	Question	Yes	No
4.1	<p>Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?</p> <p>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</p> <p><b>The Database of Restricted Suppliers now resides on the National Treasury's website(<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b></p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		

4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

### **CERTIFICATION**

I, THE UNDERSIGNED (NAME) .....

.....

Certify That The Information Furnished On This Declaration Form Is Correct. I Accept That The State May Act Against Me Should This Declaration Prove To Be False.

Signature.....Date.....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 8: CERTIFICATE OF INDEPENDENT BID DETERMINATION**

1. This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.



## **CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

---

(Bid Number and Description)

in response to the invitation for the bid made by:

---

(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:  
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

<sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....  
Signature

.....  
Date

.....  
Position

.....  
Name of Bidder

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**DATA SHEET 9: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION  
(ALL APPLICABLE TAXES INCLUDED)**

**For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:**

\* Delete if not applicable

1. Are you by law required to prepare annual financial statements for auditing?

**\*YES / NO**

- 1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

.....

.....

2. Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

**\*YES / NO**

- 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

- 2.2 If yes, provide particulars.

.....

.....

3. Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?

**\*YES / NO**

3.1 If yes, furnish particulars

.....

.....

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?

**\*YES / NO**

4.1 If yes, furnish particulars

.....

.....

**CERTIFICATION**

**I, THE UNDERSIGNED, (NAME) .....**

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.**

**I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**TENDER FORM**

The Municipal Manager (Acting)  
City Hall  
PIETERMARITZBURG  
3201

Dear Madam

Having examined the Conditions of Contract, Specifications, Tender and Legislation of the above contract, I/we offer to supply and deliver the whole of the said Works in conformity with the Conditions of Contract, Specification, Tender and Legislation, save as amended by any modifications under Annexure "A" hereto, for the prices as set out in the Pricing Schedule hereto, the **Total Rates (exclusive of VAT)** being as follows:-

Rates Contract	
----------------	--

I/We are registered VAT vendors and the total amount above **EXCLUDES VAT**.

In the event of there being any errors of extension or addition in the Pricing Schedule, I/we agree to the totals being corrected, the rates being taken as correct.

I/We undertake to deliver the goods comprised in the contract within the time frames stated in this contract document.

I/We certify that I/we have satisfied myself/ourselves that the particulars inserted on all required Affidavits are complete and correct.

I/We confirm that I am/we are fully acquainted with the current South African laws and regulations applicable to this contract including inter alia those laws to which my/our attention has been drawn in the Legislation section of this document.

I/We are registered VAT vendors and my/our VAT vendor registration number is:-

---

I/We are formally associated by written agreement with the following firms, corporations or companies:-

---

(Enter Nil if no affiliations)

I/We are fully paid up members in good standing of the following organisation(s):-

---

(Enter Nil if no affiliations)

My/Our Tender Deposit receipt number as issued by the Council is \_\_\_\_\_  
(Include a copy of the Tender Deposit Receipt if purchased)  
I/We bank at the \_\_\_\_\_

Branch of \_\_\_\_\_

Where I/we have a \_\_\_\_\_ account.

It is agreed and understood that should there be any changes on the banking details provided for the entity, a duly signed resolution by all its directors and minutes whereby a resolution for changing the banking details was passed will be submitted to Council including the original letter from the bank confirming the details.

It is agreed and understood that this tender is valid for three (3) months from the date hereof and that it, together with your final letter of acceptance, shall constitute a binding Contract between us.

I/We understand that the Council is not bound to accept the lowest or any tender and acknowledge that the Head: Supply Chain Management may, in her absolute discretion if good and sufficient grounds are brought to her attention in writing within five (5) working days from the date of closing of tenders, decline to consider my/our offer.

I/We the undersigned, warrants that I am/we are duly authorised to do so on behalf of the enterprise, certifies that the enterprise complies with all statutory and municipal requirements and that the information supplied in terms of this documents with additional information is correct and accurate and acknowledges that if the information supplied is found to be incorrect then the Msunduzi Municipality in addition to any remedies, it may have: may

- i Recover from the Enterprise all costs, losses or damages incurred or sustained by the Municipality as result of the award of the contract, and /or
- ii Cancel the contract and claim any damages which the Municipality may suffer by having to make less favourable arrangements after such cancellations, and/or
- iii Impose a penalty on the Enterprise as provided in the Tender Document, and/or
- iv Take any other action as may be deemed necessary.

I/we further undertake to submit documentary proof regarding any tendering issue to the Council when so required.

Full Name of Signatory.....

Capacity of Signatory.....

Identity Number.....

Duly authorised to sign on behalf of.....

Physical Address.....

.....

SIGNATURE..... DATE.....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)  
ALTERATIONS BY TENDERER**

Should the Tenderer desire to make any departures from or modifications to the Standard Conditions of Contract or Specification, or to qualify his/her tender in any way, he/she shall set out his/her proposals clearly hereunder or, alternatively, state them in a covering letter attached to his/her tender and referred to hereunder, failing which the tender will be deemed to be unqualified.

If no departures or modifications are desired, the Schedule hereunder is to be marked NIL and signed by the Tenderer.

<b>PAGE</b>	<b>SECTION OR ITEM</b>	<b>PROPOSED DEPARTURE/MODIFICATION</b>

Signature ..... Date .....

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**OCCUPATIONAL HEALTH AND SAFETY ACT (ACT No. 85 OF 1993)**

**SECTION 37(1)**

*Whenever an employee does or omits to do any act which would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then, it is proved that –*

- (a) in doing or omitting to do the act the employee was acting without connivance or permission of the employer or any such user;*
- (b) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and*
- (c) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question,*

*the employer or any such user himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.*

**SECTION 37(2)**

*The provisions of subsection (1) shall “mutatis mutandi” apply in the case of a mandatory of any employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatory with the provisions of this Act.*



### ACCEPTANCE BY MANDATORY

In terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 85 of 1993,  
I, \_\_\_\_\_

(name of PRINCIPAL CONTRACTOR / Representative) acting for and on behalf of

\_\_\_\_\_  
(Name of PRINCIPAL CONTRACTOR / Company) undertake to ensure that the requirements  
and provisions of the Health and Safety Specifications issued by the client at the following site:

\_\_\_\_\_  
(Name of Site) are complied with in the following manner:

- To produce, review, monitor and enforce a Health and Safety Plan which has been approved by the Client, an Agent for the Client or a Principal Contractor;
- To include a risk assessment in the Health and Safety Plan which identifies all hazards pertaining to the project;
- To ensure that all relevant documentation required by the Occupational Health and Safety Act and Regulations, including the Construction Regulations, the Compensation for Occupational Injuries and Diseases Act as well as any other statutory laws as amended from time to time is available on site in the health and safety file;
- Enforce precautionary measures stipulated in the risk assessments.

The person signing this agreement confirms that he/she has the authority to so sign and to bind his/her employer, the said Contractor.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(on behalf of PRINCIPAL CONTRACTOR)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(CLIENT- Msunduzi Municipality)

Print Name: \_\_\_\_\_

(Name of CLIENT Representative)

**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022**

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for specific goals.

**NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022.**

---

**1. GENERAL CONDITIONS**

1.1 The following preference point systems are applicable to all bids:

- The 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- The 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 Preference Point System shall be applicable.

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 The maximum points for this bid are allocated as follows:

	<b>POINTS</b>
<b>PRICE</b>	<b>80</b>
<b>SPECIFIC GOALS</b>	<b>20</b>
<b>Total points for Price and Specific Goals must not exceed</b>	<b>100</b>

1.5 Failure on the part of a bidder to submit proof or documentation required in terms of this tender to claim points for specific goals, if the bidder did not submit proof or documentation required to claim for specific goals will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

## 2. DEFINITIONS

- (a) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (b) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“Functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (d) **“highest acceptable tender”** means a tender that complies with all specifications and conditions of tender and that has the highest price compared to other tenders;
- (e) **“lowest acceptable tender”** means a tender that complies with all specifications and conditions of tender and that has lowest price compared to other tenders;
- (f) **“price”** means amount of money tendered for good or services, and includes all applicable taxes less all unconditional discounts;
- (g) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (h) **“Rand Value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation;
- (i) **“specific goals”** means specific goals as contemplated in section 2(1)(d) of the Act which may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender and disability including the implementation of programmes of the Reconstruction and Development Programme as published in Government Gazette No. 16085 dated 23 November 1994;
- (j) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (k) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions;

### 3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

#### 3.1 POINTS AWARDED FOR PRICE

##### 3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20	or	90/10
$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	or	$P_s = 90 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$

Where: -

$P_s$  = Points scored for price of bid under consideration  
 $P_t$  = Price of bid under consideration  
 $P_{\min}$  = Price of lowest acceptable bid

#### 3.2 FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

##### 3.2.1 POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20	or	90/10
$P_s = 80 \left( 1 + \frac{P_t - P_{\max}}{P_{\max}} \right)$	or	$P_s = 90 \left( 1 + \frac{P_t - P_{\max}}{P_{\max}} \right)$

Where: -

$P_s$  = Points scored for price of bid under consideration  
 $P_t$  = Price of bid under consideration  
 $P_{\max}$  = Price of highest acceptable tender

### 4. POINTS AWARDED FOR SPECIFIC GOALS

4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an

organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

80/20 preference point system is applicable, corresponding points must also be indicated as such.

**Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)**

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Black owned enterprise	5	
Youth	5	
Location of a Business Enterprise	10	

## 5. SUB-CONTRACTING

5.1 Will any portion of the contract be sub-contracted?

(**Tick applicable box**)

YES		NO	
-----	--	----	--

5.1.1 If yes, indicate:

i) What percentage of the contract will be subcontracted.....%?

ii) The name of the sub-contractor.....

iii) Whether the sub-contractor is an EME or QSE

(**Tick applicable box**)

YES		NO	
-----	--	----	--

iv) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2022:

Designated Group: An EME or QSE which is at least 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Co-operative owned by black people		
Black people who are military veterans		
<b>OR</b>		
Msunduzi EME		
Msunduzi Manufacturing Enterprise		
Location of a Business Enterprise		

**6. DECLARATION WITH REGARD TO COMPANY/FIRM**

6.1 Name of company/firm.....

6.2 VAT registration number.....

6.3 Company registration number.....

**6.4 TYPE OF COMPANY/ FIRM**

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company

**[TICK APPLICABLE BOX]**

**6.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

.....

**6.6 COMPANY CLASSIFICATION**

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider

- ☐ Other service providers, e.g. transporter, etc.

**[TICK APPLICABLE BOX]**

**6.7 MUNICIPAL INFORMATION**

Municipality where business is situated.....

Registered Account Number: .....

Stand Number: .....

**6.8** Total number of years the company/firm has been in business.....

**6.9** I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 5.2, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution.

**WITNESSES:**

1. .... 2.....

.....

**SIGNATURE(S) OF BIDDER(S)**

**DATE:** .....

**ADDRESS:** .....

.....

.....



THE MSUNDUZI MUNICIPALITY

SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024

SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)

TAX CLEARANCE CERTIFICATE

Please attach hereto an Original Valid Tax Clearance Certificate (or Tax Compliance Status Verification Pin issued by SARS) as required in terms of Regulation 16 of the Preferential Procurement Regulations, 2001

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**CIPC REGISTRATION CERTIFICATE**

Please attach hereto proof of registration with the  
Companies and Intellectual Property Commission  
(CIPC)

THE MSUNDUZI MUNICIPALITY

SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024

SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)

CSD REGISTRATION CERTIFICATE

Please attach hereto proof of registration with the  
Central Supplier Database Registration Report  
(CSD)

**THE MSUNDUZI MUNICIPALITY**

**SUPPLIES AND SERVICES CONTRACT No. E8 OF 2024**

**SUPPLY & DELIVERY OF ELECTRICITY METERS FOR DOMESTIC & SMALL POWER  
USER (SPU) WITH ADVANCED METERING INFRASTRUCTURE (AMI)**

**COMPACT USB-FLASH DRIVE**

Please attach hereto a scanned copy of the tender document on either a Compact Disc (CD) or USB-Flash Drive

# ANNEXURE 1

ANNEXURE 1	Specification Compliance	ITEM 2.1.1	
<b>Split type single phase electricity meter (Dual Pre &amp; Post Paid) G3 PLC</b>		<b>The tenderer to indicate by a tick in the relevant block. A tick in the yes column must be supported with proof of compliance. Noncompliance with any of the items listed below will result in a disqualification</b>	
General Overview		Yes	No
Compatible network	Single phase, 2-wire with display		
Enclosure format	Rail mount, with locking clip compatible with 35mm DIN standard rail or flush mounting using keyhole slot and bottom fixing screws. Long and short terminal covers supported		
	Meter must be bi-directional able to read four quadrants		
IEC Specific Data			
Rated voltage (Un)	110 to 240 Volts AC		
Frequency	50Hz		
Extended operating voltage range	80% to 120% Un		
Base current (Ib)	5 Amps		
Maximum current (Imax)	80 Amps to 100Amps		
Short circuit current	30 x Imax (10 ms according to IEC 62053-21)		
	2.5kA r.m.s.		
	(Utilisation Category UC2 according to		
	IEC 62055-31)		
Meter constant (LED flash rate)	1000 impulses / kWh		

	1000 impulses / kVAh1		
Measurement Accuracy			
Active energy, according to IEC62052-11/62053-21	Class 1		
Reactive energy, according to IEC62053-23	Class 2 for Ib = 10A, Class 3 for Ib = 5A		
Measurement behaviour			
Starting current	$\leq 0.004 I_b$ for Class 1		
General Data			
Operating Behaviour			
Power consumption in voltage circuit			
Active power at Un (max)	<2W		
Apparent power at Un (max)	<12VA		
Power consumption in current circuit			
Apparent power at Ib (max)	<7VA		
Environmental Influences			
Area of application	Indoor meter (according to IEC62052-11)		
Temperature range			
Operation meter	-10°C to +55°C		
Storage	-40°C to +70°C		
Relative humidity			
Maximum	$\leq 95\%$ ; Annual mean 75%		
Degree of Protection (according to IEC60529)			
IP Rating	IP54		
Electromagnetic Compatibility			
Electrostatic discharges (IEC61000-4-2)	Air discharge 15 kV		

Electromagnetic RF fields (IEC 61000-4-3)			
80 MHz to 2 GHz	10 V/m with load		
	30 V/m no load		
Fast transient burst (IEC61000-4-4)			
Current / voltage under load (IEC 62053-21)	4 Kv		
Radio interference suppression (IEC / CISPR 22)	Complies with requirements for CISPR 22 and CENELEC EN 50065-1		
Insulation Strength			
Insulation System Classification			
(According to IEC 62052-11)	Protective Class II		
Insulation Level	4 kV rms @ 50Hz for 1 minute		
Overvoltage withstand	440 Vac for 48 hours, 600 VDC for 1 minute		
Surge Immunity			
Voltage impulse withstand (Differential)	Meets the requirements of IEC 62052-11		
Current impulse withstand			
According to:	IEC 62052-11, SANS 61643-1		
With external arrestor withstand rating	30 kA, 8/20 $\mu$ s		
Without external arrestor withstand rating	10 kA, 8/20 $\mu$ s		
Calendar Clock			
Normal operation Accuracy (at +23°C)	+ 0.2 s/day		
Reserve running Accuracy (at +23°C)	<1 s/day		

	(EN 62054-21 requirement for time switches: 1.0s)		
Operational Reserve	With super-capacitor minimum 36 hours		
	(RTC Synchronised by Data Concentrator)		
Outputs			
Optical Test output (Active or reactive)			
Type	Visible Red LED		
Meter constant	1000 pulses/kWh		
	1000 pulses/kVAh		
Meter Faceplate Indications			
Meter Status Indication	Visible Yellow LED		
Meter Load Switch Indication	Visible Red LED		
PLC Status Indication	Visible Green LED		
Phase Connections			
Format type	Bottom connect (Line, Neutral, Load)		
Terminal Details			
Material	Mild steel, yellow passivated		
Type	Single (M8) moving-cage terminal		
Diameter	8.5 mm		
Maximum conductor cross-section	25mm <sup>2</sup>		
Type of screw	slotted (flat screw driver)		
Communication Interfaces			
Optical Communications Port	According to IEC 62056-21		
PLC Interface			
Type	OFDM G3-PLC		



	Narrowband Orthogonal Frequency Division Multiplexing (OFDM) for G3 networks in accordance with recommendation ITU-T G.9903 and CENELEC-A band plan		
	Refer - IEC61334-4-41, ISO/IEC13239/ EN 50065		
Range	Typically >200m		
Load Switch			
Contact Data	According to IEC 62055-31 for Utilisation Category UC2		
Meter Enclosure Material			
Material (Housing)	Polycarbonate, flame-retardant Resistance to spread of fire		
Resistance to spread of fire	UL94-V0 rated @1.5mm. No toxic gases emitted: 'Green Material'		
Material (Terminal block)	Polycarbonate, flame-retardant, glass-filled		
Resistance to heat and fire	Complies with 960°C glow-wire (IEC 60695-2-1)		
Approximate Dimensions	135.5mm(H) x 50.3mm(W) x 110mm(D) (Short cover)		
	165.5mm(H) x 50.3mm(W) x 110mm(D) (Long cover)		
Approximate Weight	Including packaging (Incl. MOV) approx.455 grams		
Sealing			
Meter enclosure	Factory sealed for life		
Terminal Cover	Utility sealing wires (1 point)		
	Long and short cover		

Specifications Compliance & Approvals	IEC 62053-21		
	IEC 62053-23		
	IEC62055-41(STS)		
	IEC62055-51 (STS)		
	DLMS		

## ANNEXURE 2

ANNEXURE 2	Specification Compliance	ITEM 2.1.2	
<b>Split type three phase electricity meter (Dual Pre &amp; Post Paid) G3 PLC</b>		<b>The tenderer to indicate by a tick in the relevant block A tick in the yes column must be supported with proof of compliance. Noncompliance with any of the items listed below will result in a disqualification</b>	
General Overview		Yes	No
Compatible network	Three phase, four-wire with display		
Enclosure format	Three phase, asymmetrical terminal format. Short terminal standard, long cover optional		
	Meter must be Bi-directional, Able to read four quadrants		
IEC Specific Data			
Rated voltage (Un)	Wide-range: 3 X 120 to 240 Volts AC		
Frequency	50Hz		
Extended operating voltage range	Voltage (for Un = 230V), 50% to 120% Un i.e.>115V		
	Voltage (for Un = 120V), 80% to 120% Un i.e.>90V		
Base current (Ib)	5 Amps		
Maximum current (Imax)	100 Amps per phase		
Short circuit current	30 x Imax (≤10 ms according to IEC 62053-21) 3kA r.m.s. (Utilisation Category UC3 according to IEC 62055-31)		
Meter constant (LED flash rate)	1000 impulses / kWh		
	1000 impulses / kVAh		
Measurement Accuracy			
Active energy, according to IEC62052-11/62053-21	Class 1		
Reactive energy, according to IEC62053-23	Class 3 for Ib = 5A		

<b>Measurement behaviour</b>			
Starting current (Active)	$\leq 0.004 \text{ Ib}$ for Class 1		
Starting current (Reactive)	$<0.005 \text{ Ib}$ for Class 2		
<b>General Data</b>			
<b>Operating Behaviour</b>			
<b>Power consumption in voltage circuit (with all three phases powered up)</b>			
Active power at Un 120V	$<1.2\text{W}$		
Active power at Un 230V	$<1.6\text{W}$		
Apparent power at Un 120V, 50Hz	$<4\text{VA}$ / phase		
Apparent power at Un 230V, 50Hz	$<12.5\text{VA}$ / phase		
<b>Environmental Influences</b>			
Area of application	Indoor meter (according to IEC62052-11)		
<b>Temperature range</b>			
Operation meter	$-10^{\circ}\text{C}$ to $+55^{\circ}\text{C}$		
Storage	$-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$		
Relative humidity	Maximum $\leq 95\%$ ; Annual mean 75%		
Degree of Protection (according to IEC60529)	IP53		
<b>Electromagnetic Compatibility</b>			
Electrostatic discharges (IEC61000-4-2)	Air discharge 15 Kv		
<b>Electromagnetic RF fields (IEC 61000-4-3)</b>			

80 MHz to 2 GHz	10 V/m with load		
	30 V/m no load		
Fast transient burst (IEC61000-4-4)	Current / voltage under load (IEC 62053-21) 4 kV		
Radio interference suppression (IEC / CISPR 22)	Complies with requirements for CISPR 22 and CENELEC EN 50065-1		
<b>Insulation Strength</b>			
Insulation System Classification (According to IEC 62052-11)	Protective Class II		
Insulation Level	4 kV rms @ 50Hz for 1 minute		
Overvoltage withstand	440 Vac for 48 hours, 600 VDC for 1 minute		
Surge Immunity	Voltage impulse withstand (Differential) Meets the requirements of IEC 62052-11		
<b>Current impulse withstand According to: IEC 62052-11, SANS 61643-1</b>			
With external arrester Withstand rating	30 kA, 8/20μs		
Without external arrester Withstand rating	10 kA, 8/20μs		
<b>Calendar Clock</b>			
Normal operation	Accuracy (at +23°C) + 0.2 s/day		
Reserve running	Accuracy (at +23°C) <1 s/day		
	(EN 62054-21 requirement for time switches: 1.0s)		
Operational Reserve	With super-capacitor		
	(RTC Synchronised by Data Concentrator)		
<b>Rate of Use Output</b>			
Optical Test output (Active or reactive)	Visible Red LED		
Meter constant	1000 pulses/kWh		

	1000 pulses/kVAh		
<b>Meter Faceplate Indications</b>			
Meter Status Indication	[Dual colour] Visible Yellow LED		
PLC Status Indication	[Dual colour] Visible Green LED		
Meter Load Switch Indication	LCD Icon		
<b>Phase Connections</b>			
Format type	Asymmetrical, 8 terminals		
<b>Terminal Details</b>			
Material of terminal	Brass		
Type	Terminal with two screws		
Diameter	9.5 mm		
Minimum conductor cross-section	4.0 mm <sup>2</sup>		
Maximum conductor cross-section	35.0 mm <sup>2</sup>		
- Type of screw:	Steel zinc-plated Pozidrive combi screws (default)		
- Screw dimensions	M6 x 14		
- Maximum screw head diameter	≤ 6.6 mm		
- Cross-slot	type Z, size 2 (ISO4757-1983)		
- Slot width	0.8 mm		
- Slot length min.	6 mm		
<b>Communication Interfaces</b>			
Optical Communications Port	According to IEC 62056-21		
<b>G3-PLC Interface</b>			
Frequency band	CENELEC A		
OFDM G3-PLC with COSEM/DLMS communication protocol according to EN50065-1 supporting the following OSI Layers:	ITU-T G.9903 physical layer for modulation, adaptive tone mapping and notching		

	MAC layer IEEE 802.15.4; time domain and collision management; CSMA/ARQ		
	6LoWPAN adaptation sub layer Plug and Play network management to choose “Best Path” (Full Mesh Support)		
	IPv6 IETF RFC4291/4862 addressing and networking		
	DLMS application layer 62056-53		
	COSEM application model: 62056-61 (OBIS) and 62056-62 (interface classes)		
Range	Typically >200m with G3- PLC repeater functionality		
Load Switch			
Contact Data	According to IEC 62055-31 for Utilisation Category UC3		
<b>Inputs and Outputs</b>			
<b>Pulse Input</b>			
Type	S0		
Terminals	30 (+) and 31 (-)		
According to IEC 62053-31	class A Configurable as pulse counter or alarm input		
<b>Output</b>			
Terminals	23 and 24		
<b>Type solid-state auxiliary load switch</b>			
Nominal voltage	230 VAC/DC		
Maximum voltage	250 VAC/DC		
Maximum switching current	90 mA		
<b>Meter Enclosure Material</b>			
Material (Housing)	Polycarbonate, flame- retardant		
Resistance to spread of fire	UL94-V0 rated @1.5mm. No toxic gases emitted: ‘Green Material’		
Material (Terminal block)	Polycarbonate, flame- retardant, glass-filled		

Resistance to heat and fire	Complies with 960°C glow-wire (IEC 60695-2-1)		
<b>Approximate Weights &amp; Dimensions</b>			
Width	172.0 mm		
Height	198.8 mm		
Depth	76.6 mm		
Weight	Including packaging approx.1.5kg		
<b>Sealing</b>			
Meter enclosure	Factory sealed		
Terminal Cover	Utility sealing wires (2 points)		
	Long and short (default) covers		
Specifications Compliance & Approvals	IEC 62053-21		
	IEC62053-23		
	IEC62055-41		
	IEC62055-51		
	DIms		



ANNEXURE 3	Specification Compliance	ITEM 2.1.3	
Customer interface unit G3 PLC		The tenderer to indicate by a tick in the relevant block. A tick in the yes column must be supported with proof of compliance. Noncompliance with any of the items listed below will result in a disqualification	
General data		Yes	No
Supply Voltage	110-240 VAC wide ranging power supply		
Supply Frequency	50Hz		
Power consumption (Burden)	<1.5 W / <12 VA @ 230VAC, 50Hz		
Maximum Rated Current	<120mA @ 230VAC, 50Hz		
Protective Class	Double insulated – Protective Class 2		
Supply Connection	Mains supply by means of integrated power cord. Variants are available with various international power plugs		
Battery	1 x 9 Volt (6LR61 type) battery		
Communication Circuitry			
Type	Narrowband OFDM G3-PLC Power Line Carrier		
Protocol	Device Language Message Specification (DLMS)		
Specification compliance	IEC 61334-4-41, IEC 61334-5-2, and EN 50065-1		
Operating Environment			
Temperature Range			
Operating	-10°C to +55°C		
Storage	-40°C to +70°C		
Relative Humidity (IEC 62052-11)	Maximum ≤ 95%; Annual mean <75%		
Enclosure			
Type	Wall mounted with integrated AC power cord and sliding battery compartment		
Degree of Protection (IP Rating)	IP 51		

Material	UV Stable Polycarbonate/ABS blend with flame-retardant, Resistance to heat and fire		
	Complies with 960°C glow- wire (IEC 60695-2-1)		
Resistance to spread of fire	UL94-V0 rated @1.5mm. No toxic gases emitted: 'Green Material'		
Dimensions	approximately 144mm(H) x 120mm(W) x 40.8mm(D)		
Weight including packaging	approximately 350 g		
<b>Sealing &amp; Access Control</b>			
<b>Battery Compartment</b>			
Type	Sliding compartment for battery replacement		
Customer Interface Unit Enclosure	Factory sealed- no user serviceable parts		
<b>Man-Machine Interface</b>			
Type	Pictographic/Numeric LCD display, keypad, multi-colour rate of consumption indicator and alert LED's and audible feedback		
<b>Liquid Crystal Display (LCD)</b>			
Size	9cm <sup>2</sup> (50mm (W) x 26mm (H))		
No. of digits in value field	8 digits		
No. of digits in index field	6 digits		
Digit size:	8mm (H) x 4mm (W)		
Compliance / Certification	SANS / IEC60950		
Keypad	16-key, including 12-key standard layout including "Information" and "Backspace" keys		

Buzzer	Audible feedback on key press, token accept and reject melodies and alarms		
Rate of Consumption Indicator (Rate LED)	Multi-colour rate LED (colour indicates current credit level)		
Alarm Indicator	Multi-colour LED indications for ease of use and additional audible warning of critically low credit status or other operational warnings		

## ANNEXURE 4

ANNEXURE 4	Specification Compliance	ITEM 2.1.7.1
<b>Head end requirements: Hosted Engineering &amp; meter management Software G3 PLC</b>	<b>The tenderer to indicate by a tick in the relevant block. A tick in the yes column must be supported with proof of compliance. Noncompliance with any of the items listed below will result in a disqualification</b>	
<b>1.Head End requirements</b>	<b>Yes</b>	<b>No</b>
<b>1.1 Accessibility</b>		
The web based client should be accessible by users with access to a computer with the required operating systems as well as the internet; in addition, the application must be accessible from a smart phone or tablet. Integrity of data should be guaranteed with restricted access to the application.		
The application should incorporate the following features:		
a) Restricted roles based access		
b) Registration of users through the web based application		
<b>1.2 Security Requirements</b>		
a) Secure socket layer (SSL) over http		
b) Time out connection, application to automatically log out user out after a period of inactivity		
<b>1.3 Dashboard requirements</b>		
The application should present the user with a dashboard summary. Dashboard information is to be restricted dependent on the user rights and permissions.		
<b>a) Dashboard to include:</b>		
Meter management, detailing:		
The number of meters in tamper		
The number of meters experiencing an error		
The number of meters with a low credit value		
Customer to have a full access of the Dashboard to monitor meters and Dcu's		
Showing of coordinates in the their monitoring system of the meter and DCU		

<b>b) Concentrator Unit management, detailing:</b>		
The number of concentrator units currently online		
Notifications indicating the hardware faults in the last 24 hours		
System information to provide a description of the meter, model number, description and version.		
Tool bar with links to hardware components and report functions.		
<b>1.4 Meter management requirements</b>		
The Meter management feature should allow the user to view the following meter data.		
a) List of all meters within RF range, up to 500 meters per concentrator unit.		
b) Meter serial number		
c) Meter model number and description		
d) Geo location details of the meter		
e) User credit of the meter		
f) Meter consumption total to date		
g) Warnings (if present)		
h) Details of the Concentrator Unit linked to the meter including status (online/offline)		
i) Virtual registers of the meter		
j) Meter mailbox (record and status of all messages played to the meter)		
k) Monitoring fee should be min R5 – R8 Max		
k) View the status of the meter, including:		
Tamper switch status		
Low credit status		
Over voltage status		
Under voltage status		
EEPROM Error status		
The Meter management feature should allow the operator to user to perform the following operations on each meter.		
a) Profile meter		
· Perform a basic meter scan		
b) Play specific token		
c) Play STS token		

d)Play service token (remote connect/disconnect)		
e)Refresh meter data		
f)Read and write to virtual register tables		
1.5 Concentrator Unit management requirements		
The Concentrator Unit should provide a link between the front and head-end system. The Concentrator Unit should be responsible for the routine collection, storage and communication of metering data. The Concentrator Unit should serve as a primary means of remote communication and hence must be capable of reading and writing data to and from the metering devices.		
A single Concentrator Unit should have the ability to read up to 500 meters within the range. If there are more than 500 meters within the range, the meters with the strongest signal strength and link quality should be listed.		
The Concentrator Unit management feature should allow the user to view the following data:		
a) List of all Concentrator units		
b) Unit ID's		
c) Serial number and model number		
d) IP address of the unit		
e) View the status of the concentrator unit, including:		
f) Firmware version		
g) Geo location details of the unit		
h) The time and date last seen		
i) Online status		
j) Concentrator Unit mailbox (record and status of all messages played to the meter)		
k) Meter list of all meters connected to a specific Concentrator unit		
L) Customer to have an access on Dashboard to monitor meters and DCU's		

· Redundancy: should indicates if a meter is being detected by more than one Concentrator unit		
· Proximity: should indicate the approximate distance between the Concentrator Unit and the specified meter		
· Signal strength: should the strength of the signal between the meter and the Concentrator unit		
· Link quality: should display the quality of the signal between the meter and the Concentrator unit		
The Concentrator Unit management feature should allow the operator to user to perform the following operations:		
· Cease communication with the Concentrator unit		
· Force discovery: initiate an immediate discovery of meters in the proximity of the Concentrator Unit		
· Remotely upgrade the firmware of any selected Concentrator unit		
1.6 Wireless range extender management requirements		
The Wireless extender should increase the range between the wireless keypad and the wireless meter. The range extender should operate to ensure consistent communication between the devices.		
The Wireless range extender management feature should allow the user to view the following data:		
· List of all extender's		
· Geo location details of the extenders		
· Serial number and model number		
· Installation status		
· Details of the Concentrator units that the extender is linked to		
1.7 Event and alert notification requirements		

The AMI communication server and its elected recipients should be notified by the Concentrator Unit of events occurring within the Concentrator Unit or metering devices. These events should be logged with date and time stamps and should be retrieved remotely by the communications server. The Concentrator Unit should immediately establish a connection with the communications server when a notification event occurs and report the type of event on demand. All tamper events should be logged by the Concentrator Unit. Recipients should be alerted about events through SMS and/or e-mail facilities.		
The notifications should be classified according to three different areas:		
a) Meter faults		
b) Concentrator Unit faults		
c) Hardware faults		
<b>The following notification events should be supported:</b>		
<b>Metering events</b>		
Meter tamper		
Low Credit		
Over/under voltage		
Under frequency		
Meter failure (EEPROM error)		
<b>Concentrator Unit events</b>		
New meters discovered		
New metering data available		
Change in configuration		
Concentrator Unit tamper conditions:		
· Enclosure tampering		
· RF Jamming detection		
· Antenna tampering		
· Suspicious communications packets		
· Serial port authentication failures		
<b>Hardware faults:</b>		
· Battery fault		
· File system or EEPROM fault		
· Communications module fault		
· Date and time lost		



· Unknown reason for reset (or WDT reset)		
Incomplete/expired communications process		
Loss of power and battery low		
The user should be able to view the following information through the notification management:		
· List of meter, Concentrator Unit and hardware faults		
·The incident description, date, time and serial number of the affected hardware		
·Recipient details		
1.1 System management requirements		
The system management feature should provide a detailed description of all meter data, including the following:		
a) Meter model number		
b) Meter description		
c) Meter version		
d) Virtual registers (Meters)		
e) Meter token types.		
1.2 Report generation requirements		
The application should be able to generate the following reports or reports as per the customer's request:		
a) Meter summary report		
b) Meter weekly consumption report		
c) Meter hourly consumption report		
d) Meter monthly consumption report		
e) Per zone consumption report		
Meter summary report should detail the following information:		
· Meter serial number		
· Meter reading, cost per kWh, reading date		
· Previous day's consumption		
· Last seven days consumption		
·Last 30 days consumption		
Meter weekly consumption report should detail the following information:		
· Usage for the Current week (kWh)		
· Usage for the Last week (kWh)		
· Usage for the Current month (kWh)		
·Usage for the Last month (kWh)		

· Consumption for a specific day (kWh)		
·Consumption by weekday (per half an hour in kWh)		
·Detailed usage		
·The detailed usage indicates the serial number of the meter and the consumption per		
meter as well as the Meter total to date.		