

# **ALFRED DUMA LOCAL MUNICIPALITY**

## **DEPARTMENT BUDGET AND TREASURY**



### **BID DOCUMENT**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**Department Finance  
P. O Box 195  
LADYSMITH 3370**

**Telephone: 036 637 2231  
E-mail: [finance@alfreduma.gov.za](mailto:finance@alfreduma.gov.za)**

INITIAL.....

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COMPANY NAME.....

**ALFRED DUMA LOCAL MUNICIPALITY**  
**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE PROVIDERS FOR THE SUPPLY AND  
DELIVERY OF ELECTRICAL MATERIAL FOR A PERIOD OF THREE (3) YEARS**

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# **ALFRED DUMA LOCAL MUNICIPALITY**

## **DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

### **INVITATION TO BID**

**ALFRED DUMA LOCAL MUNICIPALITY**

**INVITATION TO BID**

Bids are hereby invited from suitably qualified and experienced organisations/consortia in terms of Section 83 of the Municipal Systems Act, Act 32 of 2000 (as amended) and Sections 110 and 112 of the Municipal Finance Management Act, Act 56 of 2003 for the following:

**BID DOCUMENTS ARE NOW AVAILABLE ON THE NATIONAL TREASURY E-TENDER PORTAL, [www.etenders.gov.za](http://www.etenders.gov.za).**

**DEPARTMENT OF BUDGET & TREASURY**

**BID NO. DF 05/2025: APPOINTMENT OF A PANEL OF SERVICE PROVIDERS FOR THE SUPPLY AND DELIVERY OF ELECTRICAL MATERIALS FOR A PERIOD OF THREE (3) YEARS**

**PRE-QUALIFICATION CRITERIA**

1. Acceptable bids will be evaluated by using a system that awards points on the basis of 80/20 preferential point system of which 80 is for price and 20 is for Ownership as Specific Goal.
2. Race (HDI) 5/20- Ownership verification will be conducted in line with the Central Supplier Database and also by BBBEE scorecard attributes AND
3. RDP Goals 15/20- the bidding company to prove that it is located in the Alfred Duma Local municipal area.

Bid documents are obtainable from **Thursday 29 May 2025**.

**FUNCTIONALITY CRITERIA**

| No | Description Items                                                                                                                                                                                                                                                | Maximum Potential Score | Bid Evaluation Committee Scores | Page Ref. No. |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------|---------------|
| 1  | Number of contracts/ orders of similar nature (Electrical material supplies) above R50 000 in any sphere of government AND private institutions.<br><br>(5 points per Contract)<br><br><b>Attach appointment letters/ orders and reference letters as proof.</b> | 20                      |                                 |               |
| 2  | Bank statement/ Letter of Financial Intent from an Accredited Financial Institution not older than 3 months<br><br>A= 300 000 – 500 000 (30)<br><br>B= 200 000 – 299 999 (20)                                                                                    | 30                      |                                 |               |

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|  |                                                                                      |           |           |  |
|--|--------------------------------------------------------------------------------------|-----------|-----------|--|
|  | C=50 000 – 199 999(10)<br><b>Attach bank statement in Directors or Company name)</b> |           |           |  |
|  | <b>TOTAL SCORED</b>                                                                  | <b>50</b> | <b>50</b> |  |

4. **COMPULSORY BRIEFING SESSION:** Wednesday 11 June 2025 at 10:00 at the Ladysmith Town Hall, 47 Queens Street, Ladysmith.

5. **CLOSING AND OPENING DATE, TIME AND VENUE:** Tuesday 1 July 2025 at 11:00 in Room 206 – Lister Clarence Building, 221 Murchison Street, Ladysmith.

#### **BID ENQUIRIES**

Bid enquiries are to be addressed to Mr WP Madonsela at Tel No. 036 637 2231.

#### **BID SUBMISSION**

Sealed bids with the contract number and description of the bid endorsed on the envelope, with the bidders' details clearly indicated, must be deposited into the bid box located in the Public Entrance Door, Ground Floor of the Lister Clarence Building, 221 Murchison Street, Ladysmith on or before the closing date and time. Bids received after the said closing date and time and not clearly marked as prescribed, will not be considered. Facsimile and emailed bids will not be accepted.

Bid documents may only be submitted on the original bid documentation form as issued by the Municipality.

The following documents are mandatory:

- 1.Up to date Municipal Rates and Service Charges and Water Statements where the company is located.
- 2.Joint Venture Agreement if the company has entered into a joint venture and specifying the name of the signatory in the JV.
- 3.CSD Report

**NB: Please note that the Municipality will only consider a service provider who is registered on the Central Suppliers Database (CSD).**

**FAILURE TO ATTEND THE COMPULSORY BRIEFING SESSIONS WILL INVALIDATE YOUR BID.**

**THE FOLLOWING IS APPLICABLE:**

- **BIDDERS NEED TO SCORE A MINIMUM OF 80% TO BE ELIGIBLE FOR THE SECOND ROUND OF EVALUATION.**

**PLEASE NOTE:**

**BIDDERS ARE REQUIRED TO PROVIDE PROOF FOR EACH OF THE FOLLOWING, NAMELY QUALIFICATIONS DOCUMENTS AND REFERENCE LETTERS FOR PREVIOUSLY COMPLETED PROJECTS. FAILURE TO DO SO WILL RENDER THE BID INVALID.**

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Alfred Duma Local Municipality is not bound to accept the lowest bid and reserves the right to accept whole or part of any bid or not to consider any bid not suitably endorsed or to reject any or the entire bid without stating the reasons thereof.

**NOTICE NO. /2025**

**DATED: 23/05/2025**

**MUNICIPAL MANAGER**

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**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**CONDITIONS OF CONTRACT**



**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT BUDGET AND TREASURY**

**CONDITIONS OF THE BID**

**A. GENERAL**

1. All pages and annexures must be initialled / sign in full signature where required.
2. The lowest or any bid will not necessarily be accepted and Alfred Duma Local Municipality reserves the right to accept the whole or any part of a bid or to reject any or all the bid without stating the reasons thereof.
3. No bid will be accepted by fax or e-mail.
4. Bids are to remain open for acceptance for a period of one hundred and twenty (120) days from the date they are lodged and may be accepted at any time during the said period of of one hundred and twenty (120) days.
5. All prices and details must be legible / readable to ensure the bid will be considered for adjudication.
6. Full details of services offered must be supplied together with the return documents. All additional documents returned with the bid documents must be firmly bound and marked as **“Additional”** to the specific bid reference number.
7. Only bids on Alfred Duma Local Municipality official bid document will be accepted and the original document must be returned, fully completed and signed, in the form presented. **Failure to do so will invalidate such bid.**
8. **Corrections may not be made by means of a correcting fluid. In the event of a mistake having been made it shall be crossed out in ink and be accompanied by a full signature at each and every alteration. The Municipality reserves the right to reject the bid if corrections are not made in accordance with the above.**
9. Should it be considered necessary by the bidder that officials of Alfred Duma Local Municipality should proceed to other centres for inspection purposes, such costs shall be for the account of the bidder.
10. This contract will be governed by Alfred Duma Local Municipality “Conditions of the Bid” only and not any conditions supplied by the bidder.
11. The bidder must submit a comprehensive company profile, for example the founding company statements, as well as detailed exposition of previous work done.
12. If items are not bid for a line must be drawn through the space in pen.
13. Only bids received by **11:00** on the given closing date in the bid box will be considered.

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**B. DEMONSTRATIONS AND INSPECTIONS**

1. All bidders must be prepared to demonstrate where required, free of charge and obligation, at the Alfred Duma Local Municipality or any other area within the boundary of the Alfred Duma Local Municipality, any services offered in this bid.
2. Where officials are required to attend demonstrations or inspections outside the boundary of the Alfred Duma Local municipality Area, all costs to attend such demonstrations must be borne by the bidder.

**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**GENERAL CONDITIONS OF CONTRACT**

**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT: BUDGET AND TREASURY**

**CONTRACT NO: DF 05/2025**

**GENERAL CONDITIONS OF CONTRACT**

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## **General Conditions of Contract**

### **1. Definitions**

1. The following terms shall be interpreted as indicated:

1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.

1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all

documents incorporated by reference therein.

1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.

1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.

1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7 "Day" means calendar day.

1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.

1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.

1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is

obtained.

- 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
- 1.12"Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.

|                      |                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.17 “Local content” | means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.                                                                                                                                                                                             |
| 1.18 “Manufacture”   | means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.                                                                                                                                                                                 |
| 1.19 “Order”         | means an official written order issued for the supply of goods or works or the rendering of a service.                                                                                                                                                                                                                              |
| 1.20 “Project site,” | where applicable, means the place indicated in bidding documents.                                                                                                                                                                                                                                                                   |
| 1.21 “Purchaser”     | means the organization purchasing the goods.                                                                                                                                                                                                                                                                                        |
| 1.22 “Republic”      | means the Republic of South Africa.                                                                                                                                                                                                                                                                                                 |
| 1.23 “SCC”           | means the Special Conditions of Contract.                                                                                                                                                                                                                                                                                           |
| 1.24 “Services”      | means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract. |
| 1.25 “Supplier”      | means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.                                                                                                                                                                                              |
| 1.26 “Tort”          | means in breach of contract.                                                                                                                                                                                                                                                                                                        |



1.27 “Turnkey” means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.

1.28 “Written” or “in writing” means hand-written in ink or any form of electronic or mechanical writing.

## **2. Application**

2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2 Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.

2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

## **3. General**

3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

3.2 Invitations to bid are usually published in locally distributed news media and on the municipality/municipal entity website.

## **4. Standards**

4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

## **5. Use of contract documents and information inspection**

5.1 The supplier shall not, without the purchaser’s prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such

performance.

- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

## **6. Patent Rights**

- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
- 6.2 When a supplier developed documentation / projects for the municipality /municipal entity, the intellectual, copy and patent rights or ownership of such documents or projects will vest in the municipality / municipal entity.

## **7. Performance security**

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
  - (a)a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
  - (b)a cashier's or certified cheque.
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the

supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

## **8. Inspections, tests and analyses**

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.
- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

## **9. Packing**

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their

damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, and in any subsequent instructions ordered by the purchaser.

## **10. Delivery and documents**

- 10.1 Delivery of the goods and arrangements for shipping and clearance obligations, shall be made by the supplier in accordance with the terms specified in the contract.

## **11. Insurance**

- 11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.

## **12. Transportation**

- 12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified.

## **13. Incidental Services**

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
  - (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in

(f) assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

#### **14. Spare parts**

14.1 As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

(a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and;

(b) in the event of termination of production of the spare parts:

(i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

#### **15. Warranty**

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period

concludes earlier, unless specified otherwise.

- 15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the supplier shall, within the period specified and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

## **16. Payment**

- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier
- 16.4 Payment will be made in Rand unless otherwise stipulated.

## **17. Prices**

- 17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.

## **18. Variation orders**

- 18.1 In cases where the estimated value of the envisaged changes in purchase does not vary more than 15% of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price, and such offers may be accepted provided that there is no escalation in price.

## **19. Assignment**

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19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

## **20. Subcontracts**

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under these contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

## **21. Delays in the supplier's performance**

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.

21.4 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.

21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

## **22. Penalties**

- 22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

## **23. Termination for default**

- 23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
  - (b) if the supplier fails to perform any other obligation(s) under the contract; or
  - (c) if the supplier, in the judgement of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
- 23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.
- 23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.



23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.

23.5. Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

(i) the name and address of the supplier and / or person restricted by the purchaser;

(ii) the date of commencement of the restriction

(ii) the period of restriction; and

(iii) the reasons for the restriction.

(iv) These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7. If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Bid Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

## **24. Antidumping and countervailing duties and rights**

- 24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

## **25. Force Majeure**

- 25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.
- 25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

## **26. Termination for insolvency**

- 26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the purchaser.

## **27. Settlement of Disputes**

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree;and
  - (b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

## **28. Limitation of Liability**

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

1the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of

profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

2the aggregate liability of the supplier to the purchaser, whether under

the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

## **29. Governing language**

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

## **30. Applicable law**

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified.

## **31. Notices**

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

## **32. Taxes and duties**

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.

32.4 No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

### **33. Transfer of contracts**

33.1 The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser.

### **34. Amendment of contracts**

34.1 No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

### **35. Prohibition of restrictive practices**

35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as mended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.

35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.

35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**SPECIAL CONDITIONS OF BID**

**ALFRED DUMA LOCAL MUNICIPALITY**  
**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO: DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE PROVIDERS FOR THE SUPPLY AND  
DELIVERY OF ELECTRICAL MATERIAL FOR THE PERIOD OF THREE YEARS**

**1.SCOPE OF CONTRACT**

This contract comprises the supply and delivery as and when required and ordering of all equipment and materials herein mentioned.

**2. DEFECTIVE MATERIAL**

Any equipment / material specified under this contract which is found to be defective or which is not in accordance with this specification or the relevant standard, will not be accepted and the Alfred Duma Local Municipality will not be liable for any charge whatsoever in respect of such materials.

**4. DURATION OF CONTRACT**

The duration of this contract is three years from the date of confirmation of appointment of the service provider and will be reviewed annually based on performance. The Alfred Duma Local Municipality reserves the right not to renew the contract should the performance of the appointed service provider be unsatisfactory.

**5. PAYMENTS**

Payments shall be made promptly by the municipality, but in no case later than  
thirty (30) days after submission of an invoice or claim by the supplier

**6. SERVICE LEVEL AGREEMENT**

ii)A draft Service Level Agreement (SLA) must accompany this bid document. Negotiations will take place with the successful bidder to ensure that the contract is acceptable to both parties.

iii)Negotiations in respect of said Draft Service Level Agreement (SLA) must be finalised and the document signed within fourteen (14) calendar days after the award of this contract.

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iv) Should no consensus be reached within fourteen (14) calendar days of finalising the Service Level Agreement (SLA), the Municipality will be entitled to:

- i) cancel its acceptance of the bid, or
- 2 extend the negotiation period without prejudice to any of its other rights in terms of this contract or common law.

## **7. PENALTIES**

In the event of non-compliance with the agreed time frames, Penalty fees will be deducted at 5% of the order in lieu of each day the successful Bidder fails to render its service in respect of the Bid. Penalties will be applied for failure to comply with the conditions attached to this Bid. These penalties are more fully described in the Service Level Agreement.

## **8. SPECIFICATION**

All materials must comply with relevant SANS specification. Material not bearing the SANS mark, will not be accepted.

## **9. BID VALIDITY**

This Bid shall not be withdrawn during a period of one hundred and twenty (120) days from the date on which it is to be lodged and it may be accepted at any time during that period.

## **10. BID COMPLIANCE**

The Bid must comply with the following:

- Bid must be on the official schedule of quantities
- VAT must be indicated separately.
- This Bid or part thereof may not be ceded.

## **11. RETURNABLE DOCUMENTS**

The issued documents must be returned in the form and order in which they were issued to assist the Municipality to expedite adjudication of the Bids.

## **12. SUPREMACY OF SPECIAL CONDITIONS**

The provisions of this section will take precedence over any other condition, term or stipulation in this document.

In the event of any contradiction with any other section in the contract (including Service Level Agreement) the provisions of this section will take precedence.

### **13. OTHER MATTERS**

1. Bidders must certify that he/she have no outstanding debts due to the Municipality where the Bidder originates and any other Municipality or any service provider.

### **14. DELIVERY PERIOD**

2. The supplier is required to deliver the goods ordered within 7 working days of the order.

**ALFRED DUMA LOCAL MUNICIPALITY**

**DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**SPECIFICATION OF CONTRACT**

## **SPECIFICATIONS**

Alfred Duma Local Municipality is calling for bidders for the APPOINTMENT OF A PANEL OF SERVICE PROVIDERS FOR THE SUPPLY AND DELIVERY OF ELECTRICAL MATERIAL FOR THE PERIOD OF THREE YEARS. The Municipality required the appointed bidder to supply the units specified. The supplier is required to supply the goods. Municipality reserves the right to accept or reject any item on the basis of its quality and the agency will be required to replace such rejected items immediately.

### **1. TECHNICAL SPECIFICATIONS**

| ITEM     | DESCRIPTION                                                                      |
|----------|----------------------------------------------------------------------------------|
| 1 A – C  | Pole Mounted CDU Boxes – Circuit Breaker Only                                    |
| 2 A – C  | Pole Mounted CDU Boxes – Meters                                                  |
| 3 A – J  | Mini-Substations – 11kv And 11/6.6kv Dual Ratio                                  |
| 4        | Ring Main Units                                                                  |
| 5 A – C  | Wooden Transmission Poles                                                        |
| 6 A      | Tubular Steel Transmission Poles                                                 |
| 6 B      | Tubular Steel Street Light Poles with 3m Out Reach                               |
| 7 A – F  | High Pressure Sodium Luminaires - 70w, 150w and 250w                             |
| 8 A – J  | Transformers – Standard 11kv & Dual Ratio 11/6.6kv – 100, 200, 315, 400 & 500kva |
| 9        | KWH Meter – Electronic                                                           |
| 10 A – E | Prepaid Meters                                                                   |
| 11 A     | Single Phase – Prepayment Ready Boards                                           |
| 12       | Aluminium Stranded 11/6.6kv 3 Core – 300mm <sup>2</sup>                          |
| 13       | Copper Stranded 11/6.6kv 3 Core – 185mm <sup>2</sup>                             |
| 14       | Aluminium Stranded 11/6.6kv 3 Core – 150 mm <sup>2</sup>                         |
| 15       | Copper Stranded 11/6.6kv 3 Core – 95 mm <sup>2</sup>                             |
| 16       | Aluminium Stranded 11/6.6kv 3 Core – 70 mm <sup>2</sup>                          |
| 17       | Copper Stranded 11/6.6kv 3 Core – 50 mm <sup>2</sup>                             |
| 18       | Aluminium Solid Conductors 600 /1100 Volt 4 Core –                               |

|                 |                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------|
|                 | <b>185 mm<sup>2</sup></b>                                                                       |
| <b>19</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 120 mm<sup>2</sup></b>                    |
| <b>20</b>       | <b>Aluminium Solid Conductors 600 /1100 Volt 4 Core – 95 mm<sup>2</sup></b>                     |
| <b>21</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 70 mm<sup>2</sup></b>                     |
| <b>22</b>       | <b>Aluminium Solid Conductors 600 /1100 Volt 4 Core – 70 mm<sup>2</sup></b>                     |
| <b>23</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 50 mm<sup>2</sup></b>                     |
| <b>24</b>       | <b>Aluminium Solid Conductors 600 /1100 Volt 4 Core – 50 mm<sup>2</sup></b>                     |
| <b>25</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 35 mm<sup>2</sup></b>                     |
| <b>26</b>       | <b>Aluminium Solid Conductors 600 /1100 Volt 4 Core – 35 mm<sup>2</sup></b>                     |
| <b>27</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 25 mm<sup>2</sup></b>                     |
| <b>28</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 7 Core – 2.5 mm<sup>2</sup></b>                    |
| <b>29</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 2.5 mm<sup>2</sup></b>                    |
| <b>30</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 1 Core – 16 mm<sup>2</sup></b>                     |
| <b>31</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 2 Core – 16 mm<sup>2</sup></b>                     |
| <b>32</b>       | <b>Copper Stranded Conductors 600 /1100 Volt 4 Core – 16 mm<sup>2</sup></b>                     |
| <b>33</b>       | <b>Aluminium Steel Cored Bare Overhead Conductors – Hare – 72 mm<sup>2</sup></b>                |
| <b>34</b>       | <b>Aluminium Steel Cored Bare Overhead Conductors – Mink – 66 mm<sup>2</sup></b>                |
| <b>35</b>       | <b>Aluminium Steel Cored Bare Overhead Conductors – Squirrel – 11 mm<sup>2</sup></b>            |
| <b>36</b>       | <b>Medium Voltage ABC – 95 mm<sup>2</sup></b>                                                   |
| <b>37</b>       | <b>Medium Voltage ABC – 50 mm<sup>2</sup></b>                                                   |
| <b>38</b>       | <b>Low Voltage ABC – 95 mm<sup>2</sup></b>                                                      |
| <b>39</b>       | <b>Low Voltage ABC – 50 mm<sup>2</sup></b>                                                      |
| <b>40</b>       | <b>Airdac – 10 mm<sup>2</sup></b>                                                               |
| <b>41 A – D</b> | <b>Glass Fibre LV Kiosk (Service Boxes)</b>                                                     |
| <b>42 A – H</b> | <b>LED Street Light – 150w High Pressure Sodium &amp; 250w High Pressure Sodium Replacement</b> |
| <b>43 A – D</b> | <b>LED Street Light – 70w High Pressure Sodium &amp; 125w Mercury Vapour Replacement</b>        |
| <b>44 A</b>     | <b>LED Post to Replacement – 125w Mercury Vapour Replacement</b>                                |
| <b>45 A – D</b> | <b>LED Fluorescent Panel</b>                                                                    |
| <b>46 A – C</b> | <b>Smart Metering</b>                                                                           |

## **ITEM 1: POLE MOUNTED CDU BOXES – CIRCUIT BREAKER ONLY**

Pole mounted CDU box for the housing of customer circuit breakers only.

### **CONTAINING:**

- 1 Earth and neutral busbars with all the necessary connectors.
- 2 Clip tray suitable for CBI breakers.
- 3 Orange toggle curve 1- 5kA CBI.
- 4 Breaker (60 Amp) 6 way – 6 breakers; 4 way - 4 breakers, 2 way - 2 breakers.
- 5 Neutral and Earth 16 mm<sup>2</sup> PVC (1.5 meter) tails.
- 6 Phase Tails – 16 mm<sup>2</sup> PVC (1.5 meter) tails, 2 Way - 1 Phase, 4 Way and 6 Way - 3 phases.
- 7 UV stabilized glands (Glass filled nylon) (No 1) – Quantity equal to the unit size i.e. 4 Way will have 4 glands.

### **DIAGRAM**

The picture below shows a typical 4 Way unit.



## **ITEM 2: POLE MOUNTED CDU BOXES – METERS**

Pole mounted CDU box for the housing of customer meters i.e. split prepaid meter or standard  
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kilowatt hour meter.

**CONTAINING:**

1. Earth and neutral busbars with all the necessary connectors.
2. Clip stray suitable for CBI breakers.
3. Orange toggle curve 1 CBI breaker (60 Amp) – Quantity is unit size less one i.e. 4 way must have 3 breakers.
4. Suitable mounting for meters – split type meters and electronic kWh meters.
5. Neutral and Earth 16mm<sup>2</sup> PVC (1,5 meter) tails.
6. Phase Tails – 16 mm<sup>2</sup> PVC (1,5 meter) tails, 2 Way - 1 Phase, 4 Way and 6 Way - 3 phases.
7. UV stabilized glands (Glass filled nylon) (No 1) – Quantity equals 1 gland per unit i.e. 4 way to have 4 glands.

**ITEM 3:MINI-SUBSTATIONS – 11kV and 11/6.6kV DUAL RATIO**

**TO BE READ IN CONJUNCTION WITH NATIONAL RATIONLISED SPECIFICATIONS (NRS)  
004/1:1991 (AS AMENDED)**

**A.1 GENERAL PARTICULARS OF MINI-SUBSTATIONS**

**Bid requirement is indicated where applicable. Please circle correct response.**

A.1.1 Number of mini-substations required as and when required

A.1.2 Nominal voltage of system (see 6.1 of NRS)

Standard: 11kV

Dual Ratio: 11/6.6kV

A.1.3 Rated no-load secondary voltage (see 6.2.2 & 4.5 of NRS) 231/400V

A.1.4 Rated output (see 6.2 of NRS) 200, 315, 400, 500, 800 kVA

A.1.5 Minimum high-voltage power-frequency withstand test voltage at sea level (see 6.1 of NRS)  
12kV

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A.1.6 Equipment in MV compartment (see 6.4.1 of NRS)

**Ring Main Units - Specification of Requirements**

TYPE/MAKE OF RMU

.....

- |    |                                                                                                                                        |          |
|----|----------------------------------------------------------------------------------------------------------------------------------------|----------|
| a) | Suitable for 12kV                                                                                                                      | Yes / No |
| b) | Comply to SANS and S.I. standards                                                                                                      | Yes / No |
| c) | Comply to Health and Occupational Safety Act                                                                                           | Yes / No |
| d) | Busbar Rating: 400 Amps continuous                                                                                                     | Yes / No |
| e) | Isolator rating: 400 Amps continuous                                                                                                   | Yes / No |
| f) | Switch fuse rating: 90 Amps minimum                                                                                                    | Yes / No |
| g) | Three phase switching only                                                                                                             | Yes / No |
| h) | Fault rating: 250MVA                                                                                                                   | Yes / No |
| i) | Carry an ASTA certificate: Equipment offered must have been tested at a recognised testing station - <b>Certificate to be included</b> | Yes / No |
| j) | Capable of fault making load breaking                                                                                                  | Yes / No |
| k) | Capable of being locked off                                                                                                            | Yes / No |
| l) | Earthing switches or devices                                                                                                           | Yes / No |

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- |    |                                                                                  |          |
|----|----------------------------------------------------------------------------------|----------|
| m) | Blank labels                                                                     | Yes / No |
| n) | Not to include oil or compound, except where special compound are required       | Yes / No |
| o) | Switch fuse units to accommodate striker pin type HRC fuses up to 100 Amp rating | Yes / No |
| p) | Cable boxes to be constructed of steel suitable for use with jelly compound      | Yes / No |
| q) | Out door oil immersed ring main unit                                             | Yes / No |
| r) | Two isolators and one switch fuse unit                                           | Yes / No |
| s) | Cable gland to be brass, suitable to take a 150mm 11kV PILCSTA cable             | Yes / No |
| t) | HRC fuses to be excluded                                                         | Yes / No |

A.1.7 Incoming cable to be allowed for in terminations (see 6.4.2 of NRS)

- |    |                                                |          |
|----|------------------------------------------------|----------|
| a) | 1 x Three-core                                 | Yes / No |
| b) | Cable material - Aluminium                     | Yes / No |
| c) | Maximum size of core area - 150mm <sup>2</sup> | Yes / No |

d) Type of cable – PILCSTA Yes / No

e) Type of gland - Brass (if applicable) Yes / No / NA

#### A.1.8 Transformer Particulars

a) Rated output kVA:

Standard – 11kV

200 kVA Yes / No

315 kVA Yes / No

400 kVA Yes / No

500 kVA Yes / No

800 kVA Yes / No

Dual Ratio – 11/6.6kV

200 kVA Yes / No

315 kVA Yes / No

400 kVA Yes / No

500 kVA Yes / No

800 kVA Yes / No

b) General specification - SANS 780 Yes / No

c) Phases – Three Yes / No

d) Connection HV – Delta Yes / No

e) Connection LV – Star Yes / No

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- |    |                                                  |          |
|----|--------------------------------------------------|----------|
| f) | Vector Group - DNY 11                            | Yes / No |
| g) | Impedance (B.S.S. Method) - 4%                   | Yes / No |
| h) | Neutral LT – Out                                 | Yes / No |
| i) | High voltage between phases -<br>Standard - 11kV | Yes / No |
|    | Dual Ratio – 11/6.6kV                            | Yes / No |
| j) | Low Voltage - 400/231 V                          | Yes / No |
| k) | Frequency Hz - 50                                | Yes / No |
| l) | Parallel Operation – Yes                         | Yes / No |
| m) | Windings (Copper) – Copper                       | Yes / No |
| n) | Type - Indoor Mini Sub/s                         | Yes / No |
| o) | Load - Mixed & domestic                          | Yes / No |
| p) | Load factor - 30 – 60                            | Yes / No |
| q) | Power factor – 0.8 – 0.9                         | Yes / No |
| r) | Cooling Temp – Rise - O.N. 50°C                  | Yes / No |

|     |                                           |          |
|-----|-------------------------------------------|----------|
| s)  | Tappings 11kV - $\pm 2\frac{1}{2}\%$ & 5% | Yes / No |
| t)  | Tapping switch – Internal                 | Yes / No |
| u)  | High Voltage changing - N/A               | Yes / No |
| v)  | Terminals high voltage - Cable box steel  | Yes / No |
| w)  | Terminals low voltage - Bushing I / D     | Yes / No |
| x)  | Rollers - No                              | Yes / No |
| y)  | Maximum temp indicator – No               | Yes / No |
| z)  | Conservator – No                          | Yes / No |
| aa) | Bucholtz relay - No                       | Yes / No |
| bb) | Oil level gauge – Yes                     | Yes / No |
| cc) | Oil – Yes                                 | Yes / No |
| dd) | Explosion vent - No                       | Yes / No |
| ee) | Spares - No                               | Yes / No |
| ff) | Breather – No                             | Yes / No |
| gg) | Sealed (not welded) – Yes                 | Yes / No |

hh) LV terminals relative to HV terminals - 180° Yes / No

ii) Colour - Light grey No 631 to BS381C Yes / No

A.1.9 Construction (see 4.2.5 NRS) – Modular Yes / No

A.1.10 Layout (see 4.2.1 of NRS) - Type A Yes / No

A.1.11 Material of housing (see 4.3 of NRS) - Metal and GRP Yes / No

A.1.12 Compartment fastening (see 4.4.2.2 of NRS) – Three-point locking Yes / No

A.1.13 Compartment lock protection facility (see 4.4.2.2 of NRS) – Required Yes / No

A.1.14 Compartment base - black epoxy tar (see 4.6.3 of NRS) – Required Yes / No

A.1.15 Corrosive conditions: radiator to be galvanized(see annex D) – Required Yes / No

A.1.16 Corrosive conditions: roof & compartments to be galvanized (see annex D)

Required Yes / No

A.1.17 Provision of a socket outlet in LV compartment (see note 2) – Required Yes / No

A.1.8 Provision of earth leakage protection to suit socket outlet(see A.1.19 and note 2)  
– Required Yes / No

A.1.19 Lighting (see note 2)

Provision of one 11 W CFL lamp with

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industrial type switch in LV compartment – Required Yes / No

MV compartment lighting as for LV – Required Yes / No

A.1.20 Additional notices, nameplates or labels

(see 8.3 of NRS) – Required Yes / No

Details of information required on these additional

Labels – Required Yes / No

Danger Notices MV / LV - Blank labels on doors Yes / No

Name plates & labels required – Blank Yes / No

A.1.21 Drawings (see 8.4.2) Quantity of each additional drawing

(if any) required Yes / No

A.1.22 Documentation required (see 8.4.1) to be supplied with the

Bid - One set Yes / No

## A.2 PARTICULARS OF LV PANEL

A.2.1 Busbars - rating (6.5.2.2) - NRS004/1:1991 Section 6.5.2.2 Yes / No

A.2.2 Busbars - insulation (6.5.2.2) - NRS004/1:1991 Yes / No

A.2.3 Busbars (6.5.2.2) - 3 + Neutral + Earth Yes / No

A.2.4 Clearance bottom to top between phases (see 6.5.2.2) - 150mm Yes / No

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|                                                                                 |          |
|---------------------------------------------------------------------------------|----------|
| Clearance neutral to blue phase - 200mm                                         | Yes / No |
| Clearance neutral to earth - 100mm                                              | Yes / No |
| A.2.5 LV main switch (6.5.2.7(d)) - Not required                                | Yes / No |
| A.2.6 LV fuse-links for outgoing circuits in fuse carriers<br>(see 6.5.2.7 (c)) |          |
| - Vertical Mounting – Yes                                                       | Yes / No |
| - Neutral arrangement – Separate                                                | Yes / No |
| - Type of current - limiting fuse – HRC                                         | Yes / No |
| - Three-phase circuits/quantity - 5 Amp                                         | Yes / No |
| * Rated current - 400 Amp                                                       | Yes / No |
| * Current-limiting fuse rating - 200 Amp                                        | Yes / No |
| * Type - 3 Way wedge strippel/fuse unit with fuse carriers                      | Yes / No |
| A.2.7 Gland plates or rail (see 6.5.2.4) – Rail                                 | Yes / No |
| A.2.8 Thermal maximum demand ammeters (see 6.5.2.7(b)) – Yes                    | Yes / No |
| - Current transformers – type – Ring                                            | Yes / No |



- Location - LV Busbar Yes / No
- Ratio/Burden|Accuracy - 500/515VA/Class One Yes / No
- Ammeter - 600 Amps Yes / No
- Quantity – 3 Yes / No
- Type/Manufacturer – PSI Yes / No

A.2.9 Street lighting panel required – No Yes / No

A.2.10 Auxiliary wiring to be ferruled (see 6.5.2.6) – Yes Yes / No

A.2.11 Circuit diagram to be submitted for approval  
(see 6.5.2.6) – Required Yes / No

A.2.12 Colour - Stone to SANS 1091 to 1975 colour shade C37 Yes / No

## B1 PARTICULARS OF EQUIPMENT TO BE SUPPLIED

B.1.1 Type of mini-substation Type A or B

B.1.2 Total mass of mini-substation (kg) .....

B.1.3 Manufacturer .....

B.1.4 Overall dimensions (mm)

- MV Compartment length .....

INITIAL.....

- LV Compartment length .....

- Overall length .....

- Width .....

- Height .....

B.1.5 Is provision made for lifting the complete mini-substation  
onto a concrete plinth without the need for dismantling? Yes / No

B.1.6 Are the MV switchgear, LV panel and transformer  
confined to separate compartments? Yes / No

B.1.7 Housing cubicle material .....

B.1.8 Corrosion Protection

- Manufacturer of paint/coating system .....

- Finish of paint/coating system .....

- Specification of paint/coating system .....

B.1.9 MV cable termination

- Cable box type .....

- Cable box manufacturer .....

INITIAL.....

- Post insulators: Type .....

- Manufacturer .....

#### B.1.10 MV fuses - Transformer feeder leg on RMU

- Type/Type number .....

- Manufacturer .....

- Rating .....

### ITEM 4:RING MAIN UNITS

#### SPECIFICATION OF REQUIREMENTS

- |    |                                              |          |
|----|----------------------------------------------|----------|
| a) | Suitable for 12KV                            | Yes / No |
| b) | Comply to SANS and S.I. standards            | Yes / No |
| c) | Comply to Health and Occupational Safety Act | Yes / No |
| d) | Busbar rating: 400 Amps continuous           | Yes / No |
| e) | Isolator rating: 400 Amps continuous         | Yes / No |
| f) | Switch fuse rating: 90 Amps minimum          | Yes / No |

- |    |                                                                                                                                                                           |          |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| g) | Three phase switching only                                                                                                                                                | Yes / No |
| h) | Fault rating: 250MVA                                                                                                                                                      | Yes / No |
| i) | Carry an ASTA certificate: Equipment offered must have been tested at a recognised testing station                                                                        | Yes / No |
| j) | Capable of fault making load breaking                                                                                                                                     | Yes / No |
| k) | Capable of being locked off                                                                                                                                               | Yes / No |
| l) | Earthing switches or devices to be provided                                                                                                                               | Yes / No |
| m) | Blank labels to be provided                                                                                                                                               | Yes / No |
| n) | Not to include oil or compound, except where special compound are required                                                                                                | Yes / No |
| o) | Switch fuse units to accommodate striker pin type HRC (High Rapturing Capacity) fuses up to 100 Amp rating. Striker pin, fuses and associated gear to be immersed in oil. | Yes / No |
| p) | Cable boxes to be constructed of steel suitable for use with jelly compound                                                                                               | Yes / No |
| q) | Out door oil immersed ring main unit                                                                                                                                      | Yes / No |
| r) | Two isolators and one switch fuse unit or three isolators                                                                                                                 | Yes / No |
| s) | Cable gland to be brass, suitable to take a 300mm 11kV                                                                                                                    |          |

INITIAL.....

PILCSTA cable

Yes / No

t) HRC fuses to be excluded

Yes / No

## ITEM 5:WOODEN TRANSMISSION POLES

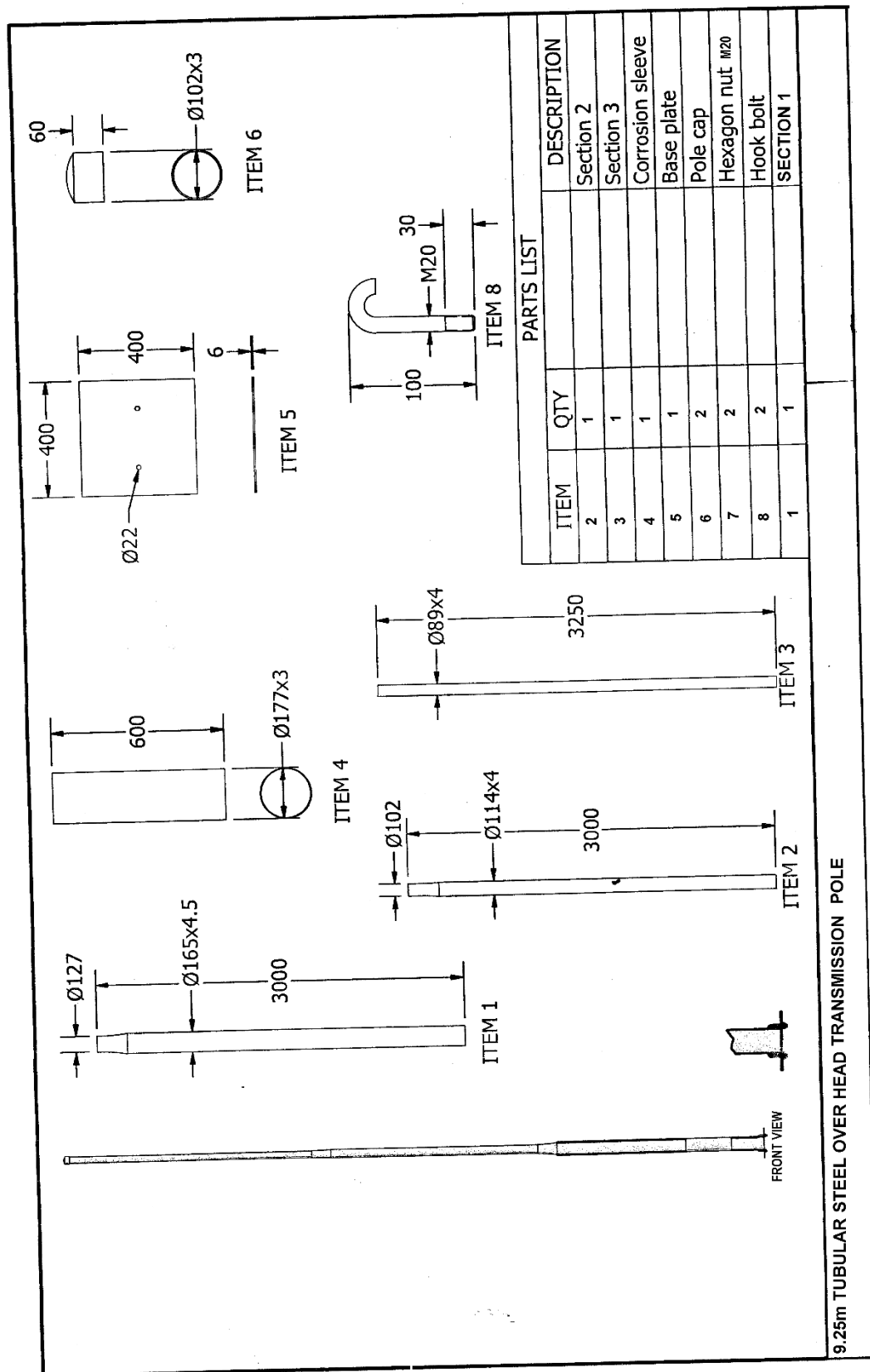
### SPECIFICATION OF REQUIREMENTS: -

|    |                        |                       |          |
|----|------------------------|-----------------------|----------|
| 1. | General Specification  | SANS 754              | Yes / No |
| 2. | Type of Timber         | Eucalyptus            | Yes / No |
| 3. | Banding (Top and Base) | Wire Bound            | Yes / No |
| 4. | Fibre stress withstand | 55 - 75 MPA           | Yes / No |
| 5. | Preservative treatment | Creosote and Waxy Oil | Yes / No |

## ITEM 6 A:TUBULAR STEEL TRANSMISSION POLES

### SPECIFICATION OF REQUIREMENTS: -

1. All tubing to be SANS 657 Grade 250 Mpa Ultimate tensile strength 450Mpa.
2. Design of poles to the new SANS 0225-1991 Specification.
3. Fabrication of poles to be relevant SANS Specification 0214-1987.
4. Hot dip galvanised to SANS 763.
5. Corrosion treatment.



ITEM 6 B:TUBULAR STEEL STREET LIGHT POLES WITH 3m OUT REACH

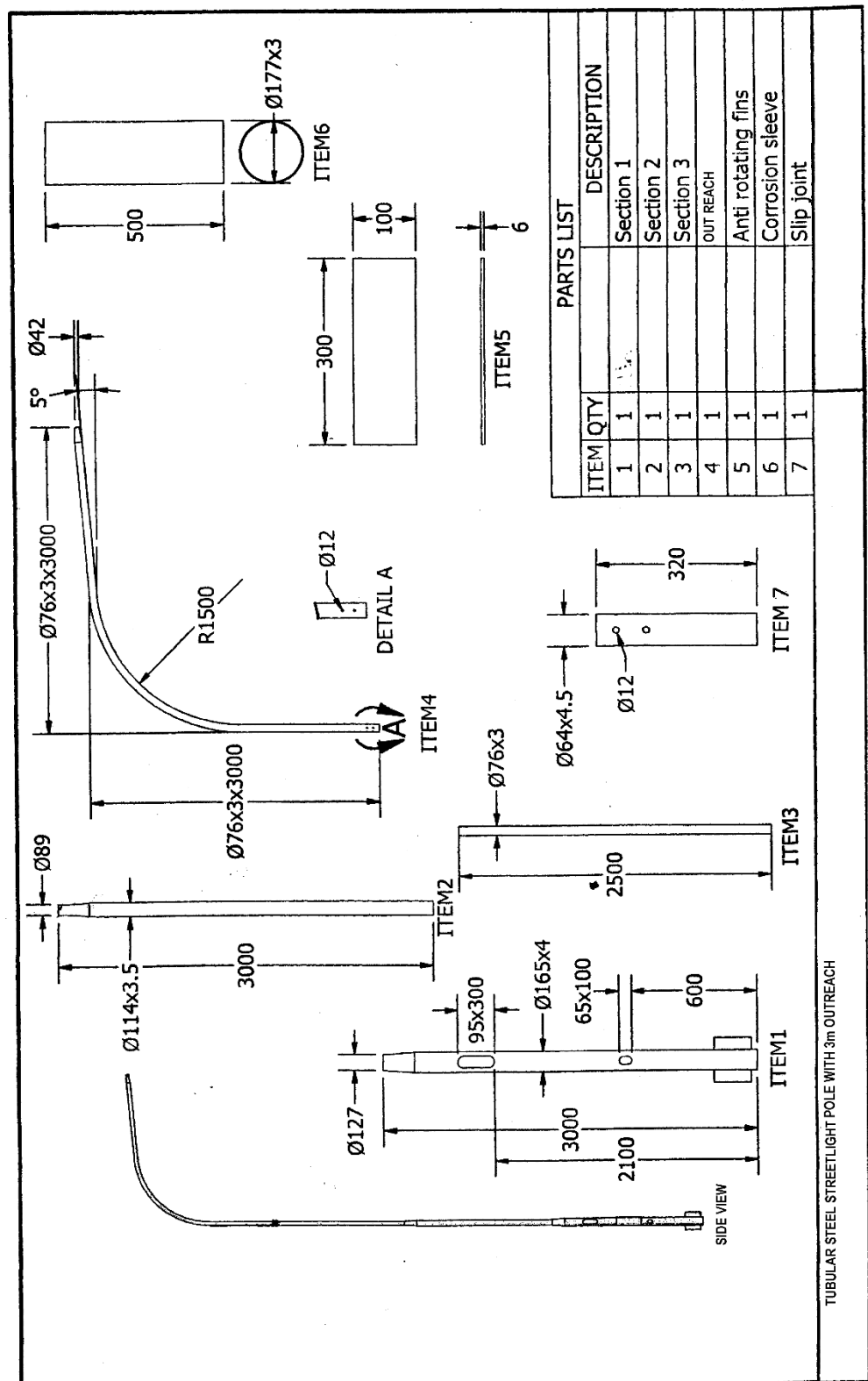
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**SPECIFICATION OF REQUIREMENTS:**

1. All tubing to be SANS 657 Grade 250 Mpa Ultimate tensile strength 450Mpa.
2. Design of poles to the new SANS 0225-1991 Specification.
3. Fabrication of poles to be relevant SANS Specification 0214-1987.
4. Hot dip galvanised to SANS 763.
5. Corrosion treatment.





**ITEM 7: HIGH PRESSURE SODIUM LUMINAIRES – 70w, 150w & 250w**

Please indicate if your compliance or not with each item of this specification by circling the correct response.

**SPECIFICATION: REQUIRED**

• The luminaire must bear the SANS IEC 60598-2-3 mark.  
(SANS Certificates to be provided) **Complies: Yes / No**

• The luminaire must bear the SANS 475 mark.  
(SANS Certificates to be provided) **Complies: Yes / No**

**Luminaire to have the 'A' mark in the diamond on luminaire** **Complies: Yes / No**

• Luminaire spigot entries shall comply with SANS 1088 – Table 1 for Type 2.

• Side entry – 42mm diameter x 125mm long. **Complies: Yes / No**

Bottom entry – 76mm diameter x 75mm deep. **Complies: Yes / No**

• The luminaire shall have a degree of protection that complies with SANS IEC 60598-2-3 and SABS 098: Part 1 – 1990 Code of Practice Table B-1. **Complies: Yes / No**

• Separated Lamp compartment: IP65 (minimum)  
(SANS IEC 60598-2-3 IP Test Report to be provided) **Complies: Yes / No**

• Separated Control gear compartment: IP65 (minimum)  
(SANS IEC 60598-2-3 IP test Report to be provided) **Complies: Yes / No**

**SPECIFICATION:**

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- The luminaire should consist of 3 separate compartments;
- the lamp compartment,
- the control gear compartment and,
- the spigot compartment.

These should be separated for thermal and ingress protection reasons.

**Complies: Yes / No**

- The lamp housing should be robustly constructed, weatherproof, hail proof, corrosion proof and vandal resistant. It should be manufactured from filled ultra-violet stabilized engineering polymer and should be grey in colour. An exterior lip of 7mm should be provided on the lamp housing ensuring that no moisture should be sucked into the diffuser. If aluminium is used it must be a minimum grade of LM6 and it must be painted. (Grade of aluminium must be confirmed by an independent metallurgical report).

**Complies: Yes / No**

- The high impact acrylic diffuser bowl should have no external prisms and should be held to the housing by three stainless steel clips. It should remain attached to the housing when hinged open. The gasket sealing the lamp compartment should be made of silicone sponge rubber and should be fitted into a tongue and groove arrangement. Glass is not to be used. Access to the lamp must only be from below the luminaire.

**Complies: Yes / No**

- Reflectors should be manufactured from 99.98% super pure deep anodised aluminium and should not be subject to accidental misalignment. The lamp holder should comply with VC 8011, be rated to withstand 240° C and should prevent loosening of the lamp caused by vibrations.

**Complies: Yes / No**

- The body should be manufactured from filled ultra-violet stabilized engineering polymer. All control gear should be housed fully within the body of the luminaire in a separated gear compartment. If aluminium is used it must be a minimum grade of LM6 and it must be painted. (Grade of aluminium must be confirmed by an independent metallurgical report). For the 150W and 250W version a high heat grade of engineering polymer must be used.

**Complies: Yes / No**

- The control gear compartment should be covered by a hinged non-corrosive cover, which should fit into a silicon sponge gasket in the body, in a tongue and groove arrangement. Access to the control gear compartment should be from underneath the luminaire. Access should be gained by loosening one captive stainless screw. No clips to be used.

**Complies: Yes / No**

- The control gear should be mounted on a removable gear tray and be suitable for operation with the specified rating of the lamp on a 230V ± 10% 50Hz single phase system. All control gear components should be removable and should bear the relevant SABS mark.

**Complies: Yes / No**

- All internal wiring should be Teflon coated with protective sleeving to prevent damage by possible abrasion. All screws, bolts and metal parts should be stainless steel or non-corrosive material.  
**Complies: Yes / No**

- The luminaire should be power factor corrected to a minimum of 0,90.  
**Complies: Yes / No**

- The luminaire must have a TA rating of at least:
  - 35 degrees for 70 and 150 W fittings
  - 40 degrees for 250 W fittings.**This is to be proven by a submitted certificate by independent authority**

- All luminaires should be of South African Manufacture. Manufactured by an ISO 9001 certified manufacturing company. Assembling only of goods in South Africa does not comply  
**Complies: Yes / No**

a. Delivery in weeks: .....

b. Guarantee (Months): .....

**ITEM 8: TRANSFORMERS: 100, 200, 315, 400 and 500 kVA: STANDARD 11kV and**

## DUAL RATIO 11/6.6kV

### SPECIFICATION AND SCHEDULE OF REQUIREMENTS – TRANSFORMERS

- |                                                     |          |
|-----------------------------------------------------|----------|
| • General specification - SANS 780                  | Yes / No |
| • Phases – 3                                        | Yes / No |
| • Connection HV – Delta                             | Yes / No |
| • Connection LV – Star                              | Yes / No |
| • Vector Group - DYN      11                        | Yes / No |
| • Impedance (B.S.S.S Method) - 4%                   | Yes / No |
| • Neutral LT – Out                                  | Yes / No |
| • High voltage between phases:-<br>11kV – Standard: | Yes / No |
| 11/6.6kV – Dual Ratio:                              | Yes / No |
| • Low Voltage - 400 / 231 V                         | Yes / No |
| • Frequency Hz – 50                                 | Yes / No |
| • Parallel Operation – Yes                          | Yes / No |
| • Windings – Copper                                 | Yes / No |
| • Type – Outdoor                                    | Yes / No |
| • Load - Mixed & domestic                           | Yes / No |
| • Load factor - 30 – 60                             | Yes / No |
| • Power factor – 0.8 – 0.9                          | Yes / No |

|                                              |          |
|----------------------------------------------|----------|
| 17. Cooling Temp – Rise - O.N. 50°C          | Yes / No |
| 18. Tappings 11kV - 6 2.5% & 5%              | Yes / No |
| 19. Tapping switch – External                | Yes / No |
| 20. High voltage changing - N/A              | Yes / No |
| 21. Terminals high voltage - Cable box steel | Yes / No |
| 22. Terminals low voltage - Bushing O/D      | Yes / No |
| 23. Rollers – Yes                            | Yes / No |
| 24. Maximum temp indicator – Yes             | Yes / No |
| 25. Conservator – No                         | Yes / No |
| 26. Bucholtz relay – No                      | Yes / No |
| 27. Oil level gauge – Yes                    | Yes / No |
| 28. Oil – Yes                                | Yes / No |
| 29. Explosion vent – No                      | Yes / No |
| 30. Spares – No                              | Yes / No |
| 31. Breather – No                            | Yes / No |

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32. Sealed (not welded) – Yes Yes / No

33. L.V. terminals relative to H.V. terminals - 180° Yes / No

34. Colour - Light grey No 631 to BS381C Yes / No

## **ITEM 9:KILOWATT HOUR METER - ELECTRONIC**

### **SPECIFICATION AND SCHEDULE REQUIREMENT – KILOWATT HOUR METER**

#### **SPECIFICATION: REQUIRED**

##### **Power Supply**

Rated Voltage: 220 – 240V **Complies: Yes / No**

Operating voltage range: From 0.9 to 1.1 rated **Complies: Yes / No**

### **Current Range**

Range: 20 – 100A **Complies: Yes / No**

### **Accuracy**

Approved IEC 1036, Class 1 and Class 2: **Complies:Yes / No**

##### **Temperature Range**

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Operating Range: - 10°C to 45°C

**Complies: Yes / No**

Limited Range of Operation: - 20°C to 55°C

**Complies: Yes / No**

Storage Range: -25°C to 70°C

**Complies: Yes / No**

### **Optical Interface:**

The meter is to have an Optical Interface with an IEC 62056-21 protocol:

**Complies: Yes / No**

### **SPECIFICATION: PRE-QUALIFICATION**

#### **Display**

The meter is to have a LCD display with no decimal point displayed.

The meter should have a six-digit display.

a. Delivery in weeks for an order of 200 units:

-----

b. Guarantee (Months):

-----

### **ITEM 10: PREPAID METERS**

#### **SPECIFICATION AND SCHEDULE REQUIREMENT – PREPAID METERS – SINGLE PHASE AND THREE**

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## PHASE

### TABLE OF CONTENTS

#### 1. STANDARDS

##### 1. SOUTH AFRICA

IEC specifications, the prepayment meter must comply fully with the following Local Standards.

| No                                             | Name                  | Revision            | Title                                                                                 | Component                  | Remarks  |
|------------------------------------------------|-----------------------|---------------------|---------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Metering Unit (Active and Passive Part)</b> |                       |                     |                                                                                       |                            |          |
| 1.                                             | SANS 1524-1           | Edition 5<br>2005   | South African National Standard<br>Part 1: Prepayment Meters                          | Meter                      | Yes / No |
| 2.                                             | SCSSCA AA9<br>(MC171) | Rev 2<br>Aug 2005   | SPECIFICATION<br>Particular requirements for<br>Prepayment meters                     | Meter                      | Yes / No |
| 3.                                             | SCSSCA AJ1            | Rev 0.2<br>Jun 1996 | Standard Passive Units for single<br>Phase 230V Service Connections                   | Meter Base                 | Yes / No |
| 4.                                             | TRMSCA AP2            | Rev 2<br>Dec 1994   | Specification for Indoor arrestors<br>for the protection of electricity<br>dispensers | Lightning<br>Protection    | Yes / No |
| 5.                                             | MC195                 | 20-11-<br>1994      | Internal Contactor Specification for<br>Electricity Dispensers                        | Contactor<br>Specification | Yes / No |

1. IEC Metering Standards – IEC62055-31.
2. STS – IEC62055-41/51 – the worldwide prepayment standard.
3. DLMS – Device Language Message Specification.

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4. COSEM – Companion Specification for Energy Metering – sets the rules, based on existing standards, for data exchange with energy meters.
5. IDIS – The Interoperable Device Interface Specifications – is an industry association for smart metering companies which provide interoperable products based on open standards.
6. G3-PLC – the world's only CENELEC/FCC PLC solution supporting true IPv6 addressing – is standards based to ensure interoperability and a future proof solution.
7. RF communication to be quoted separately.
8. All of the above is to be compliant in terms of NRS057 (smart metering).

## 2. PRE-QUALIFICATION REQUIREMENTS

### 1. Meter Types

#### 1. Standard Base Type Meter

1. The meter shall be an integrated meter consisting of two parts, namely, an Active part and Passive part (Meter Base) – This is commonly referred to as the standard base type meter.

#### 1. Retrofit Type Meter

1. The meter shall be of British Standard (BS) 5685 footprint for standardised mounting.
  1. The meters shall have terminals with bottom entry for cables and the arrangements shall be : Symmetrical/BS i.e. L:N:N:L

#### 1. Split Meters – Single and Three Phase

10. The split meter shall consist of two parts, The MCU and CIU
  - a. The Single Phase MCU shall have British Standard (BS) 5685 footprint for standardised mounting
  - b. The operating distance between the MCU and CIU shall be at least 250m.

#### 2. Three Phase Prepaid Meter

Standard three phase prepaid meter.

### 2. Electrical Requirements

1. The meters shall be operated from mains with reference values of: - 220 / 240V, 50 Hz, with an operating range from 0.8 to 1.15Un
2. The meter shall have reference standard currents of: -
  - c. Single Phase meters : Ib = 5A, Imax = 80A
  - d. Three Phase Meters : Ib <= 20A, Imax = 100A

## 2.4 Metering Accuracy Requirements

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1. The meter's accuracy shall be of Class 2/Class 1 for active energy.
2. The meters calibration shall be retained for the life of the meter.

## 2.5 Meter Life Expectancy and Accelerated Life Tests

The meter shall have a life expectancy of at least 15 years. Supplier are required to submit certificates, from an accredited reputable standards body confirming that Accelerated Life tests have been done on their meters.

## 2.6 Tamper Detection

Pre-qualification points will be given to meters that are fitted with some form of tamper detection. The following will be considered:

1. Tamper switch fitted on the terminal cover plate which puts the meter into a tamper state when opened.
2. Electronic detection which detects whether the meter has been bypassed or not. If a bypass is detected then the meter will go into a tamper state.

TAMPER SWITCH: YES / NO

ELECTRONIC BYPASS DETECTION: YES / NO

## 3. MANDATORY REQUIREMENTS

### ➤ Approval Certificates

Copies of type approval certificate(s) with test and calibration results of the meter being offered obtained from an international or national meter certificate body shall be provided.

**Failure to provide proof of certification will result in non-compliance on Bid.**

- The meter must comply to 30V/m requirement for Immunity to radiated RF electromagnetic fields as per test (b) of Clause 7.8.3. of IEC 62055-31.
- The meter must support a "Meter key recovery" feature for reasons explained below

- The meter shall have the capability to display at least the last 5 credit tokens entered. This feature is required to assist technicians with customer queries in the field without having to remove the meter from service or requiring special tools to extract this data.
- The meter shall have an IP54 rating.

b. Guarantee: (Months) -----

Single phase Prepayment Ready Board:

1. Must have a common base to allow a standard base type Prepaid meter to be plugged in.
  - Must have a 60A bulkhead fitting, supplied with a 11W CFL lamp.
  - 60A Earth leakage unit with overload protection.
  - 10A Circuit breaker for lighting.
  - 2 x 20A Circuit breaker for plugs.
  - 3 x plug points on Ready Board.

**Aluminium** stranded conductors screened non draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall

COMPANY NAME.....

DRUM LENGTH REQUIRED 300 m

ITEM 13:COPPER STRANDED 11/6.6kV 3 CORE – 185mm<sup>2</sup>

**Copper** stranded conductors screened non-draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall.

**(185 mm<sup>2</sup> conductors)**

DRUM LENGTH REQUIRED 300 m

ITEM 14:ALUMINIUM STRANDED 11/6.6kV 3 CORE – 150 mm<sup>2</sup>

Aluminium stranded conductors screened non draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall (150 mm<sup>2</sup> conductors)

DRUM LENGTH REQUIRED 300 m

ITEM 15:COPPER STRANDED 11/6.6kV 3 CORE – 95 mm<sup>2</sup>

Copper stranded conductors screened non-draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall.

(95 mm<sup>2</sup> conductors)

DRUM LENGTH REQUIRED 300 m

ITEM 16:ALUMINIUM STRANDED 11/6.6kV 3 CORE – 70 mm<sup>2</sup>

Aluminium stranded conductors screened non draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall (70 mm<sup>2</sup> conductors)

DRUM LENGTH REQUIRED 300 m

ITEM 17:COPPER STRANDED 11/6.6kV 3 CORE – 50 mm<sup>2</sup>

Copper stranded conductors screened non-draining 11/6,6 kV 3 core earthed, paper insulated, Lead sheathed, steel tape armoured PVC anti-electrolyses protection overall.

(50 mm<sup>2</sup> conductors)

DRUM LENGTH REQUIRED 300 m

ITEM 18:ALUMINIUM SOLID CONDUCTORS 600/1100 VOLT 4 CORE – 185 MM<sup>2</sup>

Aluminium solid conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall  
(185 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

ITEM 19: COPPER STRANDED CONDUCTORS 600 /1100 VOLT 4 CORE – 120 MM<sup>2</sup>

Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(120 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

ITEM 20: ALUMINIUM SOLID CONDUCTORS 600 /1100 VOLT 4 CORE – 95 MM<sup>2</sup>

Aluminium solid conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall (95 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

ITEM 21: COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 70 MM<sup>2</sup>

Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(70 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 22:ALUMINIUM SOLID CONDUCTORS 600/1100 VOLT 4 CORE – 70 MM<sup>2</sup>**

Aluminium solid conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall  
(70 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 23:COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 50 MM<sup>2</sup>**

Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(50 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 24:ALUMINIUM SOLID CONDUCTORS 600/1100 VOLT 4 CORE – 50 MM<sup>2</sup>**

Aluminium solid conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall  
(50 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 25:COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 35 MM<sup>2</sup>**

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Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(35 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 26:ALUMINIUM SOLID CONDUCTORS 600/1100 VOLT 4 CORE – 35 MM<sup>2</sup>**

Aluminium solid conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(35 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 27:COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 25 MM<sup>2</sup>**

Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(25 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 300 m

SPECIFICATION: SANS 150 /1970

**ITEM 28:COPPER STRANDED CONDUCTORS 600/1100 VOLT 7 CORE – 2.5 MM<sup>2</sup>**

Copper stranded conductors 600 /1100 volt 7 core, PVC insulated steel or wire armoured, PVC protection overall

(2.5 mm<sup>2</sup> 7 core conductors)

DRUM LENGTH REQUIRED 500 m

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SPECIFICATION: SANS 150 /1970

**ITEM 29: COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 2.5 MM<sup>2</sup>**

Copper stranded conductors 600 /1100 volt 4 core, PVC insulated steel or wire armoured, PVC protection overall

(2.5 mm<sup>2</sup> 4 core conductors)

DRUM LENGTH REQUIRED 500 m

SPECIFICATION: SANS 150 /1970

**ITEM 30: COPPER STRANDED CONDUCTORS 600/1100 VOLT 1 CORE – 16 MM<sup>2</sup>**

Copper stranded conductors 600 /1100 volt 3 core, PVC insulated steel or wire armoured, PVC protection overall

(16 mm<sup>2</sup> 3 core conductors)

DRUM LENGTH REQUIRED 500 m

SPECIFICATION: SANS 150 /1970

**ITEM 31: COPPER STRANDED CONDUCTORS 600/1100 VOLT 2 CORE – 16 MM<sup>2</sup>**

Copper stranded conductors 600/1000 volts, PVC insulated, Steel or Wire armoured PVC protected overall.

(16 mm<sup>2</sup> 2 Core PVC PVC SWA / ECC Cable)

DRUM LENGTH REQUIRED 500 m

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SPECIFICATION: SANS 150 /1970

**ITEM 32: COPPER STRANDED CONDUCTORS 600/1100 VOLT 4 CORE – 16 MM<sup>2</sup>**

Copper stranded conductors 600/1000 volts, PVC insulated, Steel or Wire armoured PVC protected overall.  
(16 mm<sup>2</sup> 4 Core PVC Cable)

DRUM LENGTH REQUIRED 500 m

SPECIFICATION: SANS 150 /1970

**ITEM 33: ALUMINIUM STEEL CORED BARE OVERHEAD CONDUCTORS – HARE – 72 MM<sup>2</sup>**

Aluminium steel cored bare overhead conductors to SANS part 2 of 1973 (ASCR) HARE (6/1/186) 6/1/4, 72 mm<sup>2</sup>

**ITEM 34: ALUMINIUM STEEL CORED BARE OVERHEAD CONDUCTORS – MINK – 66 MM<sup>2</sup>**

Aluminium steel cored bare overhead conductors to SANS part 2 of 1973 (ASCR) MINK (6/1/144) 6/1/3, 66 mm<sup>2</sup>

**ITEM 35: ALUMINIUM STEEL CORED BARE OVERHEAD CONDUCTORS – SQUIRREL – 11 MM<sup>2</sup>**

Aluminium steel cored bare overhead conductors to SANS part 2 of 1973 (ASCR) SQUIRREL (6/1/083) 6/1/2, 11 mm<sup>2</sup>

**ITEM 36: MEDIUM VOLTAGE ABC – 95 MM<sup>2</sup>**

ABC Medium voltage 6.35/11 kV single cores laid up around galvanised wire PVC served. Outer serving of all 3 cores & catenary are carbon loaded for UV protection. With phase identified. Cable size 95 mm<sup>2</sup>

To comply with SANS 1339 (adapted)

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ITEM 37:MEDIUM VOLTAGE ABC – 50 MM²

ABC Medium voltage 6.35/11 kV single cores laid up around galvanised wire PVC served. Outer serving of all 3 cores & catenary are carbon loaded for UV protection. With phase identified. Cable size 50 mm²

To comply with SANS 1339 (adapted)

ITEM 38: LOW VOLTAGE ABC – 95 MM²

ABC Low voltage 660/1000 v self-supporting 5 core hard drawn stranded & compacted aluminium conductors insulated with carbon loaded XLPE for UV protection. With phase 1, 2 & 3 identified. Non-strained neutral with 2 longitudinal ribs.

Cable size 95 mm²

ITEM 39: LOW VOLTAGE ABC – 50 MM²

ABC Low voltage 660/1000 v self-supporting 5 core hard drawn stranded & compacted aluminium conductors insulated with carbon loaded XLPE for UV protection. With phase 1, 2 & 3 identified. Non-strained neutral with 2 longitudinal ribs. Cable size 50 mm²

ITEM 40:AIRDAC – 10 MM²

AIRDAC House service cable. Circular stranded hard-drawn copper phase conductor, having 2 additional control wires, XLPE insulated with identified neutral & bare earth arranged concentrically around it. 600/1000v cable with nylon ripcord  
Cable size 10 mm².

To comply with SANS 1339 (adapted)

ITEM 41:LV KIOSK (SERVICE BOX)

SPECIFICATION - GLASS REINFORCED POLYESTER (GRP) ELECTRICAL ENCLOSURES

1. **GENERAL CONSTRUCTION:**

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1. The metering kiosk shall consist of a 2 door free standing fibreglass box mounted on a fibreglass plinth.
2. The consumer side shall accommodate 2, 6, 9 or 12 meters and single-phase miniature circuit breakers. The busbars shall be mounted at the rear of the box.

## 2. **GRP REQUIREMENTS:**

1. All GRP components must be manufactured in accordance with the latest issue of SANS 141, must bear the SANS mark for G.R.P. laminates and may only be constructed by a fabricator who has been approved by the South African Bureau of Standards. (CERTIFICATE TO BE SUPPLIED WITH BID)
2. All GRP components are to be ultra-violet stabilized, manufactured from FIRE RETARDANT RESIN (Type F) laminates and resistant to accelerated weathering.
3. The exterior surface shall be covered with a pigmented gelcoat, the colour to be in accordance with SANS 1091 - Light Stone Number C37, and thickness between 0.4 and 0.6mm thick. The layer of gelcoat shall be smooth, without cracks, holes or air bubbles and shall be worked off smooth on all edges and joining planes.
4. The laminate shall consist of 3 layers of 450 g/m<sup>2</sup> totalling 1350 g/m<sup>2</sup> chopped strand mat bound with unsaturated Fire Retardant orthophthalic polyester resin that contains no fillers or dilutants. The laminate shall have a glass-to-resin ratio not less than 2:1 and not more than 3:1 as per SANS 141,
5. All cut edges shall be reinforced with an extra 2 layers of mat. After curing the inside of the box and doors shall be finished to a smooth surface and painted with 2 coats of white alkyd enamel.

## 3. **FIBREGLASS DOORS**

1. The doors shall be placed in such a way to allow easy access to all equipment on the metering side.
2. The danger notice as required by the Occupational Health and Safety Act shall be of the flash type with the words "Danger", "Gevaar" and "Ingozi" on it. The danger notice shall be moulded into the gelcoat prior to laminating and shall not consist of an adhesive transfer.
3. The hinges shall be of the butt type and manufactured of 316 stainless steel. No die cast hinges will be accepted. Galvanized steel plates shall be laminated into the doors to affix the hinges. Brass countersunk screws shall be used for mounting the door onto the box and a galvanized steel backing plates shall be used on the inside of the box for reinforcing.
4. Each door shall have a locking mechanism consisting of a 316 stainless steel thru lock suitable for padlocking. No hasp and staple or lever lock will be accepted.
5. No meter reading window is required.

## 4. **MOUNTING PANEL**

1. Mounting panels must be manufactured from tempered Masonite 6.4 mm thick.
2. In order to prevent the tempered Masonite panels from absorbing moisture, panels must be totally immersed in varnish after the drilling of all holes and prior to assembly.

## **5. METAL FRAME and FASTENERS**

1. The metal frame shall have a 3mm hot dip galvanized gland plate, bolted to the bottom for clamping incoming and outgoing cables with provision for earthing.
2. All metal framework and components shall be hot-dip galvanized after fabrication and **NOT** electroplated.
3. Galvanizing must be conducted in accordance with the latest issue of SANS 763 and must preferably bear the SABS mark. Thickness of the galvanizing must be in accordance with Table I, General Applications (SANS 763).
4. The metal frame shall be bolted to the base by means of two M10x25 hex bolts welded onto a 2mm steel strip and laminated onto the inside of the base once electro plated.
5. All nuts, bolts and washers shall be Cadmium plated and not Zinc plated.

## **6. VENTILATION**

1. The box shall have adequate ventilation holes under the bull nose of the box to avoid water entering the box.
2. A non-corrosive gauze preventing vermin from entering the box shall cover the ventilation holes.

## **7. BUSBARS**

1. Copper busbars shall be tinned after the holes have been drilled. The phase and neutral busbars shall be 25 x 6.3mm and mounted on the back of the panel.
2. The busbars shall be tin plated and have 2 x 11mm holes and 4x7mm holes with M10x25 hex bolts and M6x16 CH screws in respectively with washers and nuts for connecting cables.
3. The busbars shall be identified to phase by colour- coded insulators.

## **8. BUSBAR INSULATORS**

1. Busbar insulators shall be colour coded to (red, white, blue) for phase and (black) for neutral.
2. The insulator shall have an M6 insert of brass on either side with the gap allowing the insulation to withstand a working voltage of 600v and a high voltage withstand test of 2500v.

### **ITEM 42:LED STREET LIGHT – 150W HIGH PRESSURE SODIUM & 250W HIGH PRESSURE SODIUM REPLACEMENT**

- The LED streetlight luminaire must be supplied with 48 LED's (250w HPS replacement) and 32 LED's (150w HPS replacement) with a CRI > 70 and make use of 4000k – neutral white LED's.

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- It must have a complete circuit wattage of between 105 Watts and 110 Watts (250w replacement) and 70Watts and 77Watts (150w replacement) and a lumen output of 12500 and 13000 lumen (250w HPS replacement) and 8000 and 8500 lumen (150w HPS replacement). The luminaire offered must be a direct replacement for the current 250w HPS and 150w HPS fittings and must have an energy saving of no less than 60% for the 250w HPS Replacement and 57% for the 150w HPS replacement. No other wattage will be accepted.
  - The luminaire must consist of 3 separated compartments, the Spigot compartment, the lamp LED compartment and the gear compartment. The luminaire may only have an IP rating of 66(Certified by a recognised authority) for the LED compartment and the gear compartment.
  - The luminaire must only be manufactured from marine grade die cast aluminium (EN 1706 AC-47000 grade) only (a metallurgical report from an independent metallurgist confirming the grade of aluminium for all the luminaires offered will be requested if required). Alfred Duma Local Municipality reserves the right to submit luminaires for metallurgical testing when necessary. It must consist of two pieces. (The spigot mounting compartment shall be suitable for side entry and have a spigot entry that complies with SANS 1088(42mm x 125mm only).  
This compartment is attached to the spigot by two stainless steel screw. The lamp and control gear section will hinge on this compartment on a stainless steel bar hinging mechanism. It will be shut by means of two stainless steel latches.
1. The lamp and gear compartment must have cooling fins above the lamp compartment that are designed in such a manner as to prevent dirt accumulation. The cooling rib height to width ratio may not exceed 0.7.
  2. The luminaires shall deliver 80% of the initial lumens, when installed for a minimum of 60 000 hours. If required, the bidder will have to provide depreciation graphs by means of IES LM 80-08 data of the LED's.  
The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e.15 000hrs.
1. Temperature sensors shall be fitted as protection devices to the luminaire, placed directly next to the LEDs. These shall not switch off the luminaire completely. Full details of how the luminaire manages its temperature through the use of sensors and the effect on lumen maintenance shall be supplied.
  2. The replacement (upgrading and service) of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical/gear compartment by means of a hinging mechanism, or other such simple method which does not require tools, to allow integration of future technological development of LEDs and power supply.
  3. The lifetime of the power supply or driver shall be 100 000hrs with 90% survival over the lifetime.
  4. The LED's are to be covered by a flat tempered glass with an IK08 rating.
  5. Each LED must be covered with a lens that provides the required distribution – Lens type 5102 lenses to be used to meet Emnambithi/Ladysmith current requirements.
  6. The power supply (which is mounted within the luminaire in its own IP 66 separated compartment) must be able to operate between 185-265VAC at 50Hz on single phase system. It must comply with EMC – EN55015 and EN 61347-1. It must be able to operate between -15 deg to +60 deg case temperature. It must have the same life as the LED's. It must be power factor corrected to >95 and have a efficiency of >89%.
  - The PCB board must have temperature monitoring sensors incorporated within. The luminaire must have a Ta rating of 35 Degrees (Certified by an independent Authorised authority). The luminaire is to be provided with a 10kV/10kA surge or 20kV/20kA protection device. The luminaire must automatically disconnect when hinged open.
  - Various components such as the aluminium housings, glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured in South Africa, in line with the government directive of local manufacturing support.
  - The assembly and testing of the LED luminaire shall be undertaken within an ISO 9001 certified factory, in South Africa.
  - The luminaire must bear the SANS 60598-2-3 mark (Proof will be required).

- The luminaire is to comply with the specifications laid out in the SABS ARP 035 revised document.

| <b>Compliance to Specification</b><br><b>(To be completed by Bidder)</b>                                                                                  |                                                                                                                          |                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|
| All Bidders must complete this schedule. Failure to answer this questions honestly will disqualify you and possible disqualify you for all future Bidding |                                                                                                                          |                            |
| No                                                                                                                                                        | Question                                                                                                                 | Please State "Yes" or "No" |
| 1                                                                                                                                                         | Is the Luminaire Assembled, Tested and designed in a South Africa ISO 9001 facility?                                     |                            |
| 2                                                                                                                                                         | Has the luminaire got 3 separated compartments with an IP66 rating on two of them?                                       |                            |
| 3                                                                                                                                                         | Does the luminaire bear the SANS 60598-2-3 mark?                                                                         |                            |
| 4                                                                                                                                                         | Is the luminaire manufactured from marine Grade EN 1706 AC- 47000 aluminium and verified by an independent Metallurgist? |                            |
| 5                                                                                                                                                         | Is the minimum energy saving specified above achieved?                                                                   |                            |
| 6                                                                                                                                                         | The offered luminaire used the above minimum lumen outputs?                                                              |                            |
| 7                                                                                                                                                         | LED's being used are 4000k?                                                                                              |                            |
| 8                                                                                                                                                         | Does the luminaire being offered comply 100% with what is specified?                                                     |                            |
| 9                                                                                                                                                         | The luminaire has the exact number of LED as specified?                                                                  |                            |

**Please note that the above SANS 60598-2-3 Certificates and ISO 9001 certificate need to be provided to prove that you comply.**

We \_\_\_\_\_ confirm that the above information is true and correct, and acknowledge that if it's found that the product being supplied does not comply completely with the Councils specification, the order will be cancelled and all goods supplied will be returned at your companies expense.

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**ITEM 43:LED STREET LIGHT – 70W HIGH PRESSURE SODIUM & 125W  
MERCURY VAPOUR REPLACEMENT**

1. The LED streetlight luminaire must be supplied with 16 LED's with a CRI > 70 and make use of 4000k – neutral white LED's.
  2. It must have a complete circuit wattage of between 50 Watts and 55 Watts and a lumen output of 5000 and 5500 lumen. The luminaire offered must be a direct replacement for the current 70w HPS and 125w MV fittings and must have an energy saving of no less than 37% for the 70w HPS and 62% for the 125w MV version. No other wattage will be accepted.
  3. The luminaire must consist of 3 separated compartments, the Spigot compartment, the lamp LED compartment and the gear compartment. The luminaire may only have an IP rating of 66 (Certified by a recognised authority) for the LED compartment and the gear compartment.
  4. The luminaire must only be manufactured from marine grade die cast aluminium (EN 1706 AC-47000 grade) only (a metallurgical report from an independent metallurgist confirming the grade of aluminium for all the luminaires offered will be requested if required). Alfred Duma Local Municipality reserves the right to submit luminaires for metallurgical testing when necessary.
  5. The spigot mounting compartment shall be suitable for side entry and have a spigot entry that complies with SANS 1088 (42mm x 125mm only).  
This compartment is attached to the spigot by two stainless steel screw. The lamp and control gear section will hinge open and pivot on itself. It will be shut by means of two stainless steel latches.
- 
1. The lamp and gear compartment must have cooling fins above the lamp compartment that are designed in such a manner as to prevent dirt accumulation. The cooling rib height to width ratio may not exceed 0.7.
  2. The luminaires shall deliver 80% of the initial lumens, when installed for a minimum of 60 000 hours. If required, the bidder will have to provide depreciation graphs by means of IES LM 80-08 data of the LED's.  
The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e.15 000hrs
- 
- Temperature sensors shall be fitted as protection devices to the luminaire, placed directly next to the LEDs. These shall not switch off the luminaire completely. Full details of how the luminaire manages its temperature through the use of sensors and the effect on lumen maintenance shall be supplied.
  - The replacement (upgrading and service) of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical/gear compartment by means of a hinging mechanism, or other such simple method which does not require tools, to allow integration of future technological development of LEDs and power supply.
  - The lifetime of the power supply or driver shall be 100 000hrs with 90% survival over the lifetime.
  - The LED's are to be covered by a flat tempered glass with an IK08 rating.
  - Each LED must be covered with a lens that provides the required distribution – Lens type 5068 lenses to be used to meet Emnambithi/Ladysmiths current requirements.
  - The power supply (which is mounted within the luminaire in its own IP 66 separated compartment) must be able to operate between 108-305 VAC at 50Hz on single phase system. It must comply with EMC – EN55015 an EN 61347-1. It must be able to operate between -15 deg to +60 deg

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case temperature. It must have the same life as the LED's. It must be power factor corrected to >95 and have a efficiency of >89%.

- The PCB board must have temperature monitoring sensors incorporated within. The luminaire must have a Ta rating of 35 Degrees (Certified by an independent Authorised authority). The luminaire is to be provided with a 10kV/10kA surge or 20kV/20kA protection device. The luminaire must automatically disconnect when hinged open.
- 1. Various components such as the aluminium housings, glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured in South Africa, in line with the government directive of local manufacturing support.
- 2. The assembly and testing of the LED luminaire shall be undertaken within an ISO 9001 certified factory, in South Africa.
- 3. The luminaire must bear the SANS 60598-2-3 mark (Proof will be required).
- 4. The luminaire is to comply with the specifications laid out in the SABS ARP 035 revised document.

### **Compliance to Specification**

#### **(To be completed by Bidder)**

All Bidders must complete this schedule. Failure to answer this questions honestly will disqualify you and possible disqualify you for all future Bidding

| No | Question                                                                                                                 | Please State "Yes" or "No" |
|----|--------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1  | Is the Luminaire Assembled, Tested and designed in a South Africa ISO 9001 facility?                                     |                            |
| 2  | Has the luminaire got 3 separated compartments with an IP66 rating on two of them?                                       |                            |
| 3  | Does the luminaire bear the SANS 60598-2-3 mark?                                                                         |                            |
| 4  | Is the luminaire manufactured from marine Grade EN 1706 AC- 47000 aluminium and verified by an independent Metallurgist? |                            |
| 5  | Is the minimum energy saving specified above achieved?                                                                   |                            |
| 6  | The luminaire offered uses the above minimum lumen outputs?                                                              |                            |
| 7  | LED's being used are 4000k?                                                                                              |                            |
| 8  | Does the luminaire being offered comply 100% with what is specified?                                                     |                            |
| 9  | The luminaire has the exact number of LED as specified?                                                                  |                            |

**Please note that the above SANS 60598-2-3 Certificates and ISO 9001 certificate need to be provided to prove that you comply.**

We \_\_\_\_\_ confirm that the above information is true and correct, and acknowledge that if it's found that the product being supplied does not comply completely with the Councils specification, the order will be cancelled and all goods supplied will be returned at your companies expense.

Name \_\_\_\_\_

Signature \_\_\_\_\_

#### **ITEM 44:LED POST TO REPLACEMENT – 125W MERCURY VAPOUR REPLACEMENT**

1. The LED streetlight luminaire must be supplied with 24 LED's with a CRI > 70 and make use of 4000k – neutral white LED's.
  2. It must have a complete circuit wattage of between 52 Watts and 56 Watts and a lumen output of 5800 and 6200 lumen. The luminaire offered must be a direct replacement for the current 70w HPS and 125w MV fittings and must have an energy saving of no less than 60% for the 125w MV version. No other wattage will be accepted.
  3. The luminaire must consist of 3 separated compartments, the Spigot compartment, the lamp LED compartment and the gear compartment. The luminaire may only have an IP rating of 66 (Certified by a recognised authority) for the LED compartment and the gear compartment.
  4. The luminaire top cover must be round in shape with a slight curve. It must be manufactured from a Plasmid material that is UV resistant.
  5. The luminaire must be glare free and the LED's must shine upward in its IP66 enclosure onto a highly efficient glare free white reflector.
  6. The diffuser must be tapered from the top lid downwards to the spigot housing. The material must be high impact and clear with a IK 08 rating.
  7. The luminaire spigot must only be manufactured from marine grade die cast aluminium (EN 1706 AC-47000 grade) only (a metallurgical report from an independent metallurgist confirming the grade of aluminium for all the luminaires offered will be requested if required). Alfred Duma Local Municipality reserves the right to submit luminaires for metallurgical testing if necessary.
  8. The spigot mounting compartment shall be suitable for bottom entry and have a spigot entry that complies with SANS 1088 (76 Diameter).  
This spigot compartment is attached to the optical department by two stainless steel screw.
- 
1. The luminaires shall deliver 80% of the initial lumens, when installed for a minimum of 60 000 hours. If required, the bidder will have to provide depreciation graphs by means of IES LM 80-08 data of the LED's.  
The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e.15 000hrs.

- The replacement (upgrading and service) of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical compartment by means of two stainless steel screws.
- The lifetime of the power supply or driver shall be 100 000hrs with 90% survival over the lifetime.
- The LED's are to be covered by a Tapered PMMA protector with a impact resistance of IK08 rating.
- The luminaire supplied must give a symmetrical distribution.
- The power supply (which is mounted within the luminaire in its own IP 66 separated compartment) must be able to operate between 185- 285 VAC at 50Hz on single phase system. It must comply with EMC – EN55015 an EN 61347-1. It must be able to operate between -15 deg to +60 deg case temperature. It must have the same life as the LED's. It must be power factor corrected to >95 and have a efficiency of >89%.
- The PCB board must have a form of temperature monitoring sensors incorporated within. The luminaire must have a Ta rating of 35 Degrees (Certified by an independent Authorised authority). The luminaire is to be provided with a 10kV/10kA surge protection device.
- Various components such as the aluminium housings, PMMA protectors, silicon gaskets, top covers and stainless steel latches/clips shall be manufactured in South Africa, in line with the government directive of local manufacturing support.
- The assembly and testing of the LED luminaire shall be undertaken within an ISO 9001 certified factory, in South Africa.
- The luminaire must bear the SANS 60598-2-3 mark (Proof will be required).
- The luminaire is to comply with the specifications laid out in the SABS ARP 035 revised document.

### **Compliance to Specification**

#### **(To be completed by Bidder)**

All Bidders must complete this schedule. Failure to answer this questions honestly will disqualify you and possible disqualify you for all future Bidding

| No | Question                                                                                                              | Please State "Yes" or "No" |
|----|-----------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1  | Is the Luminaire Assembled, Tested and designed in a South Africa ISO 9001 facility?                                  |                            |
| 2  | Has the luminaire got 3 separated compartments with an IP66 rating on two of them?                                    |                            |
| 3  | Does the luminaire bear the SANS 60598-2-3 mark?                                                                      |                            |
| 4  | Is the spigot manufactured from marine Grade EN 1706 AC- 47000 aluminium and verified by an independent Metallurgist? |                            |
| 5  | Is the minimum energy saving of 60% achieved?                                                                         |                            |
| 6  | The luminaire offered uses the above minimum lumen outputs?                                                           |                            |
| 7  | LED's being used are 4000k?                                                                                           |                            |

|   |                                                                      |  |
|---|----------------------------------------------------------------------|--|
| 8 | Does the luminaire being offered comply 100% with what is specified? |  |
| 9 | The luminaire has the exact number of LED as specified?              |  |

**Please note that the above SANS 60598-2-3 Certificates and ISO 9001 certificate need to be provided to prove that you comply.**

We \_\_\_\_\_ confirm that the above information is true and correct, and acknowledge that if it's found that the product being supplied does not comply completely with the Councils specification, the order will be cancelled and all goods supplied will be returned at your companies expense.

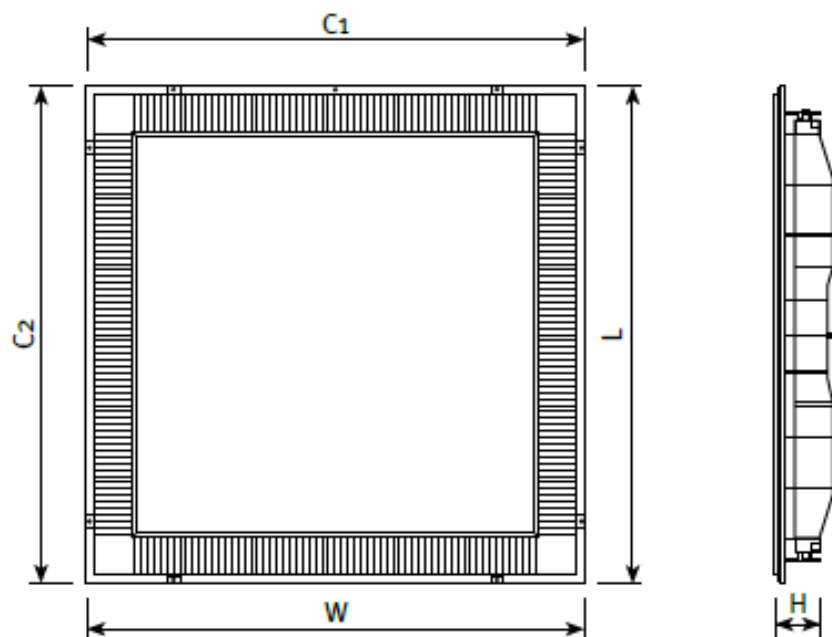
Name \_\_\_\_\_

Signature \_\_\_\_\_

#### **ITEM 45:LED FLUORESCENT PANEL**

- The LED streetlight luminaire must be supplied with LED's with a CRI > 80 and make use of 4000k – neutral white LED's.
  - It must have a complete circuit wattage of between 35 Watts (for the 600 x 600 version) 3080 lumen and 70 Watts (1200 x 600 version) 6160 lumen. The luminaire offered must be a direct replacement for surface mounted fluorescent or recessed fluorescents.
  - The luminaire must consist of a single enclosed housing with non-discolouring opaque acrylic diffuser and a white (White RAL 9016) polycarbonate body frame.
  - The inner module must be no more than 70mm in depth
  - Long useful lifetime of the LEDs (50 000hrs @ Tq 25°C, L70)
  - Light colour - neutral white light (4000K)
  - Ambient temperature range of -10 to 40°C
1. The PCB board must have a form of temperature monitoring sensors incorporated within. The luminaire must have a Tq rating of 25 Degrees.
  2. The assembly and testing of the LED luminaire shall be undertaken within an ISO 9001 certified factory, in South Africa
  3. Made in accordance to EN 60598 and EN 62262
  4. Must be available in surface mounted version as well

## DIMENSIONS



| Dari         | 600x600 | 600x1200 |
|--------------|---------|----------|
| L            | 595mm   | 1195mm   |
| W            | 595mm   | 595mm    |
| H            | 69.5mm  | 69.5mm   |
| C1 (Cut-out) | 575mm   | 1175mm   |
| C2 (Cut-out) | 575mm   | 575mm    |

### Compliance to Specification

(To be completed by Bidder)

All Bidders must complete this schedule. Failure to answer this questions honestly will disqualify you and possible disqualify you for all future Bidding

| No | Question                                                                             | Please State "Yes" or "No" |
|----|--------------------------------------------------------------------------------------|----------------------------|
| 1  | Is the Luminaire Assembled, Tested and designed in a South Africa ISO 9001 facility? |                            |

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|   |                                                                      |  |
|---|----------------------------------------------------------------------|--|
| 2 | Is a one piece luminaire?                                            |  |
| 3 | Luminaire in accordance with EN 60598 and EN 62262?                  |  |
| 4 | Complies with dimensions as above?                                   |  |
| 5 | The luminaire offered uses the above minimum lumen outputs?          |  |
| 6 | LED's being used are 4000k?                                          |  |
| 7 | Does the luminaire being offered comply 100% with what is specified? |  |

**Please note that the above ISO 9001 certificate needs to be provided to prove that you comply.**

We \_\_\_\_\_ confirm that the above information is true and correct, and acknowledge that if it's found that the product being supplied does not comply completely with the Councils specification, the order will be cancelled and all goods supplied will be returned at your companies expense.

Name \_\_\_\_\_

Signature \_\_\_\_\_

## **ITEM 46:SMART METERING**

### **Smart Prepayment Meter Solution Overview**

#### **1. Delivering Revenue Security**

Securing the revenue from the various services that the Utility provides to its citizens in a timely and accurate manner is fundamental to keeping its strong financial position. Advanced, multi-layer, anti-fraud protection system is to provide real time tampering prevention and loss analysis on the meter level and on the grid level delivering full transparency of losses in the grid no matter where they are generated.

#### **2. Prepayment**

This project is designed to implement a technology platform that establishes an equitable and dependable smart prepaid electricity metering system that is highly accessible and simple to use for all residents.

Operationally, the functional requirements of the Smart Meter Solution have been designed to support the following Electricity Consumer experience.

The Electricity Consumer will be able to access multiple vending channels where they can pay for their prepaid electricity. These channels will include a network of Point of Sale Mobile Vending Terminals, mobile money, PC-Based Vending Terminals.

The Smart Meter (and Back End Systems) will know how much credit has been applied to the Smart Meter and the remaining credit balance can be sent by SMS to the customer or displayed within the Electricity Consumer's Premises so they can refer to this at any time.

The Utility will set default parameters so that it will trigger a series of alarms when the available credit reaches a set of threshold levels (kilowatt hours before credit runs out). This information will be displayed on the CIU. It is also possible to send SMS text alerts and emails to Electricity Consumers (assuming Electricity Consumers have registered their contact details with the Utility).

Based upon this, the Electricity Consumer should be fully aware of their consumption and level of credit, so they will be able to make an informed decision and plan:

- 9 How to manage their remaining credit (i.e. reduce consumption if they do not have sufficient funds to reload credit immediately).
- 10 When to reload credit onto their meter.

The Smart Meter Solution operating model therefore ensures that:

1. The Electricity Consumer has multiple channels to select from to actuate payment.
2. The Electricity Consumer will have real time information available to them on how much credit they have remaining.
3. A system of alarms will advise Electricity Consumers if their credit has fallen below a threshold value (analogous to a "low fuel" warning light in car).

The Electricity Consumer can make an informed decision on when and how to make a payment ensuring an uninterrupted supply of electricity.

## 1. Protecting the Grid and Responding to Peak Power

The Smart Meter Solution should support several intelligent elements which gathers and analyses information in real-time in the grid in order to determine whether the grid is at risk by high demand at certain points (domestic consumer, industrial consumer, city, entire grid), if instability may affect the grid in the future (such as renewable energy and electric vehicle charging), or if there is shortage of supply.

The system should support load control devices installed in consumer premises to limit the use of auxiliary customer equipment (hot water heaters, air conditioners, swimming pool pump, etc.) during peak energy periods.

## **2. Under Frequency Based Distributed Intelligence**

The smart meters should support under-frequency circuitry for rapid response to peak demand and dynamic pricing. The meter should have the option to disconnect and connect customers upon settable values in frequency pre-defined from the control centre.

## **3. Real time Solution**

Provision for reliable and efficient bidirectional communication with the smart meter assets enabling real-time monitoring and control.

## **4. Grid Compliance**

The solution must comply with all relevant local and international standards to assure full compatibility to the grid network.

## **5. Cyber Security**

The solution must be fully secure, and designed with fail-safe systems to ensure the system's availability and zero loss of data.

## **6. Flexibility**

The smart meters should feature a hot swappable communications module enabling the use of PLC, GPRS or LAN, allowing the freedom of choice to the utility to incorporate new communications technologies as they become available.

## **7. Scalable Solution**

The solution should be expandable to support additional applications such as demand response, energy forecasting, GIS, outage management, EV charging, etc.  
The system should support high-volume meter data to scale-up as the Utility deploys increasing quantity of smart meters.

## **8. Energy Efficiency**

Ability for the consumer to read metering data directly, frequently enough to enable the use of information to achieve energy savings.



## **9. Efficient Consumer Engagement**

A self-service customer portal should provide the consumer with access to consumption and cost data (in user selected intervals and a variety of forms including export) to verify usage charges as well as provide analysis to justify energy savings projects.

## **10. Interoperable Solution**

The system should feature open architecture/protocol standards allowing for integration of third-party manufactured equipment into the system and integration with ERP and billing software.

## **11. Integration of Renewable Generation**

In consumer generated energy generation installations, the Smart Meters should support measuring and transmitting import and export of energy data.

## **12. Implementation of Advanced Tariff Structures**

An essential task of the system is the application of remotely modifiable tariff structures such as Time of Use (TOU), and block/step tariffs, which may be assigned on an individual or customer type basis. The Utility should also have the ability to implement a combination of time of use (TOU) and block/step-incline tariffs.

### **2.1. Reference Architecture**

This section describes a reference architecture for the Smart Meter Solution.

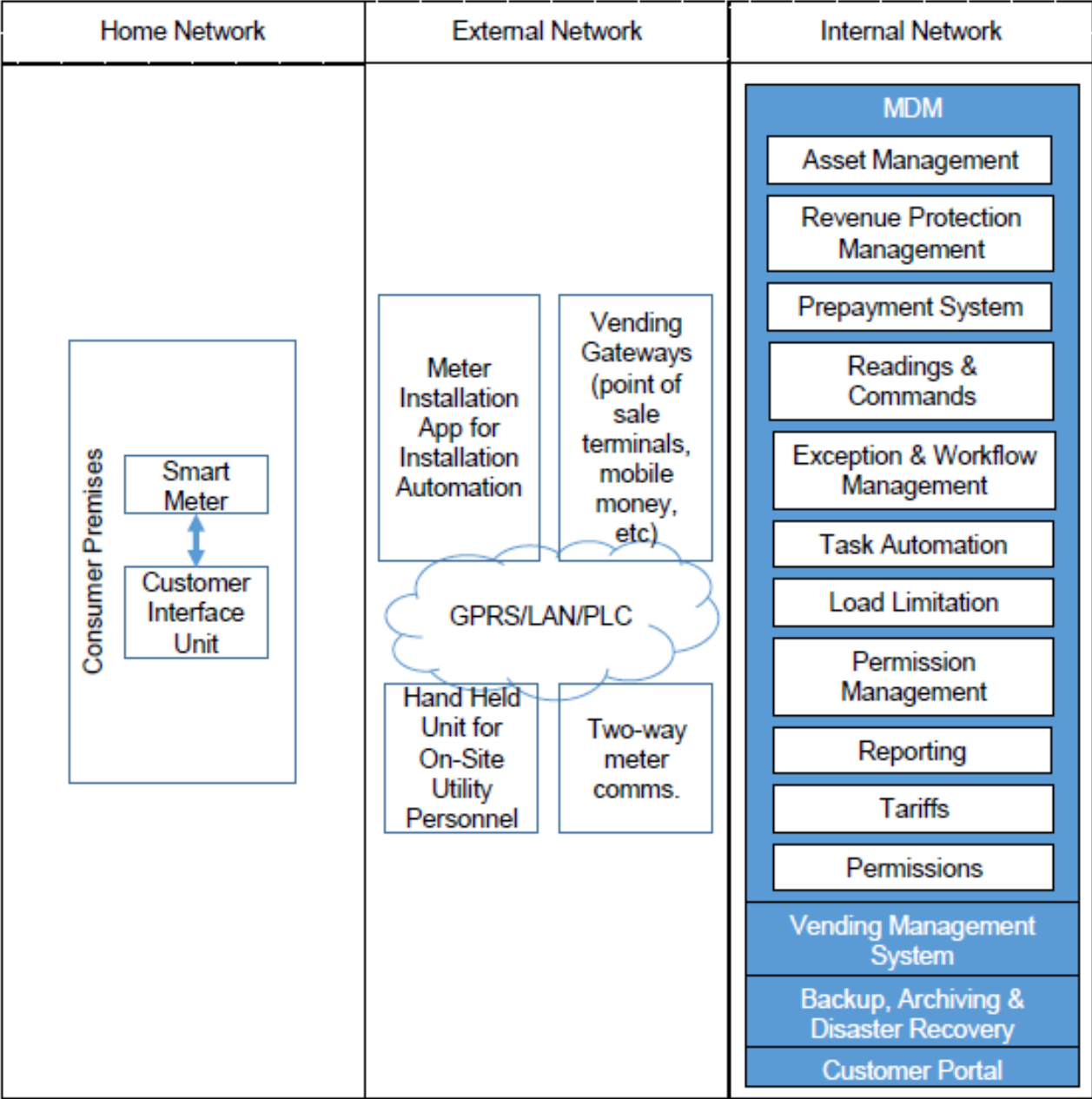
### **2.2. Reference Architecture**

The reference architecture is described as a number of sub-systems which together form an integrated Smart Meter Solution.

The Internal Network, which form part of the reference architecture are described as follows:

1. Backup, Archiving & Disaster Recovery – This system is to ensure a high level of business continuity in the case of system failures.
2. Meter Data Management System (MDMS) - The MDMS is responsible for processing and storing the data collected from the installed base of Smart Meters and provides centralised management data in respect of the Smart Meters and associated equipment.
3. Vending Management System (VMS) - The vending software system manages the full vending process including STS token generation system. The vending should be capable of vending currency/units as per TOU or Step incline tariffs/fixed cost.

**NETWORK ARCHITECTURE**



**2.3. Systems and equipment within the scope of this RFP**

**2.2.1 Smart Meters**

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There are many generic definitions for the term “Smart Meter”. In the context of the Smart Meter Solution, at an overarching level the Smart Meters will include advanced functionality such as:

- The ability to record electricity consumption in defined intervals (as short as a few minutes), and to provide time-stamped meter readings.
- The ability for real-time two-way communication between the Smart Meter and the Back-End system.
- The ability to remotely disconnect and re-connect service.
- Collection of readings in multiple categories (e.g. to support Time-of-Use applications).
- Storage of meter data locally until its transfer to the MDMS.
- Support of ad-hoc requests from the MDMS for meter data.
- Enabling firmware upgrades by remote downloading from the MDMS.
- Support manual meter reading in case of loss of remote communication to the meter.
- Provide real time reporting of alarms/events (e.g. meter tampering, and power outages).
- In the future (or during the lifecycle of this project), it is likely that Electricity Consumers will have their own forms of power generation (e.g. solar). It will therefore be necessary to measure the power supplied to the Grid as well as power consumed. This capability must be provided in a single bi-directional meter.
- Support time/clock synchronisation.
- Local storage of pre-payment credit within the Smart Meter.
- The Smart Meters shall collect record and transmit energy profile data such as power quality, per phase voltage and current, average power factor, and line frequency etc.
- Smart Meters must be able to interface with CIUs.
- Smart Meters must allow the implementation of complex tariffs.
- Interoperable standards.
- Ability to supply emergency credits.
- Ability to support negative credit.

### 2.0.1            **Communication Modules**

Associated with the Smart Meters will be a range of interchangeable communications modules which shall support a range of communications modules, including but not limited to GPRS/3G, PLC, and LAN.

### 2.0.2            **PLC Concentrator (Concentrator or DCU)**

The Concentrators are typically installed near the low voltage side of low voltage distribution transformer. The Concentrator manages the meters via PLC and communicates with the utility server by GPRS or LAN. The unit is responsible for the acquisition, processing, storing, and transferring data between the meters and the MDMS. Each Concentrator need to communicate with at least 2000 meters through the power line communication.

The Concentrator should also be fitted with CT metering capabilities enabling unmetered consumption detection for identifying losses. By placing a "sum meter" at a node of the residential power grid and additional meters below it that measure the consumption of branches or specific loads in the tree below, the system performs a comparison between the sum meter and the branch/load meters sum. If the sum meter measurement is greater than the sum of the downstream meters measurements, it is a strong indication of an illegal load that consumes power.

#### **2.2.4 Consumer Interface Unit (CIU)**

The CIU is situated in the premises of the consumer and features a keypad with a display that can provide the Electricity Consumer with the ability to enter prepayment tokens as well as view a range of useful information relating to their energy usage. Communication between the CIU and the Smart Meter shall use PLC. The CIU need to communicate with the meters without the existence of power in the customer premises. The CIU must have the option to replace the battery externally.

Some of the key functions of the CIU are to:

1. Enter prepayment token numbers
2. Provide immediate display of the current credit available and the current level of consumption.
3. Provide Electricity Consumer awareness of the current ToU period and tariff level.
4. Provide advanced warnings to the Electricity Consumer when credit is near depleted and needs to be topped-up.
5. Provide a mechanism upon power disconnection to ensure communication with the Electricity Consumer can be resumed.
6. Provide a visible and audible alarm in the event of meter tampering.

#### **2.2.5 Meter Data Management System (MDMS)**

The MDMS software shall offer full capabilities for managing, controlling, monitoring and interfacing to smart metering/smart grid applications. It shall be a multi-channel, multi-protocol, multi-lingual system with robust database centres, and state of the art telecommunication network interfaces, which shall enable high data rate collection for large scale smart meter deployments.

It should providing multi-vendor management capable of integrating smart meters manufactured by various vendors, and designed with full authorization control of functional objects and users.

The system shall also support the integration of water and gas metering.

#### **2.2.6 Meter Installation App (MIA)**

The Bidder shall offer a comprehensive and advanced meter installation application for smart phones, which shall streamline the meter deployment and setup process. The application should automate installation process avoiding mistakes and ensuring minimal setup time. All installations must be done automatically (paperless) allowing project deployment progress and allowing GIS location with each meter installation.

#### **2.2.7 Vending Gateway**

The vending gateway includes the sales channels for prepayment of electricity between Electricity Consumers and the Utility. It includes Point of Sale (POS) mobile terminals, PC-based Point of Sale terminals, and mobile money integration.

## 2.2.8 Customer Portal

Each Electricity consumer is assigned a password-protected account accessible via internet to view consumption related data and graphs. In addition, the system supports the functionality of users to have password resets, export data, view past bills, receive messages from the utility.

## 2.2.9 Vending Management System

The vending management system handles the generation of STS tokens, reconciles transactions and produces reports.

## 2.2.10 Hand Held Unit (HHU)

The HHU is an infrared terminal, which allows communication with the Smart Meters and Concentrators via the infrared port. Running local software, the device can set, read and activate any function in the Concentrator and Smart Meter, with all functionality available for local on-site users. The device ensures security of the meter and system from the time of installation until configuration. It is mandatory that once the meter is installed in the field, the HHU should trigger all alerts to ensure storage of any tamper during the time the meter is still not connected to the MDMS.

## 3.0 Technical Proposal Requirements

### 3.1 Type Testing

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| 3.1.1<br><b>Mandatory Requirement</b> | The manufacturer shall have carried out the type tests to prove conformance to requirements as specified by IEC 62052-11, IEC 62053-22, IEC 62053-23, IEC 62053-21, at an accredited test facility.<br><br>Certificate should be accepted only if performed and signed by an MID notified body from the list provided at NANDO website.<br><br>( <a href="http://ec.europa.eu/enterprise/newapproach/nando/index.cfm?fuseaction=directive.nb&amp;refe_cd=EPOS_43437">http://ec.europa.eu/enterprise/newapproach/nando/index.cfm?fuseaction=directive.nb&amp;refe_cd=EPOS_43437</a> ).<br><br><a href="#">Bidder Response</a> |
| 3.1.2<br><b>Mandatory Requirement</b> | A copy of all test certificates and details of tests performed and the approval certificates should be submitted with the Bid response.<br><br><a href="#">Bidder Response</a>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3.1.3<br><b>Mandatory Requirement</b> | The accredited test facility, which carried out the type tests of the Smart Meters, shall prove conformance to ISO/IEC 17025:2005.<br><br><a href="#">Bidder Response</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| 3.1.4<br><b>Respond</b> | Meter type test certificates issued by an authority in the country of the Utility. |
| Bidder<br>Response      |                                                                                    |

## 3.2 Generic Requirements

These requirements relate to the hardware, the software and the operational processes associated with the Smart Meter Solution.

### 3.2.1 Revenue Protection

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| 3.2.1.1<br><b>Mandatory Requirement</b> | The hardware and software should continuously monitor and calculate energy losses, looking for changes in power consumption behaviour of Electricity Consumers which show an un-normative consumption profile, set as a deviation (%) from average from the MDMS.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Bidder<br>Response                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3.2.1.2<br><b>Mandatory Requirement</b> | CT metering capability should be included in the DCU. The DCU located at the output of the low voltage transformer measures the total power consumption of this root. All the Smart Meters under the same root report total consumption. The MDMS should analyse the line loss analysis, and alert the system operators accordingly of suspected tampering within this network root.                                                                                                                                                                                                                                                                                              |
| Bidder<br>Response                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3.2.1.3<br><b>Mandatory Requirement</b> | Alert notifications should be programmed into the system to send an automatic SMS or email to the designated Utility personnel for each alarm type. The status of each alert should be managed within the MDMS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Bidder<br>Response                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3.2.1.4<br><b>Mandatory Requirement</b> | <p>The Smart Meters should create and transfer an automatic alarm to the MDMS for the following suspected tamper attempts:</p> <ol style="list-style-type: none"> <li>1 Bypassing meter.</li> <li>2 Bypassing neutral.</li> <li>3 Inter-changing incoming and outgoing leads.</li> <li>4 Reversing the connections in one or two phases of 3 phase meters.</li> <li>5 Inter-changing phase and neutral and providing a local earth to act as neutral.</li> <li>6 Breaking of CT lead wires in one or two phases.</li> <li>7 Breaking seals and tampering with the recording mechanism, resetting the reading, etc.</li> <li>8 Tapping off from the incoming lead wire.</li> </ol> |

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|                                         | 9 Any cover open (even when not connected to power) should be detected and stored.                                                                                                                          |
| Bidder Response                         |                                                                                                                                                                                                             |
| 3.2.1.5<br><b>Mandatory Requirement</b> | The Smart Meters alarm mechanisms should be primed from the time of leaving the manufacturing facility. Any suspected tamper events should be automatically notified to the MDMS upon first communications. |
| Bidder Response                         |                                                                                                                                                                                                             |

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| 3.2.1.6<br><b>Mandatory Requirement</b> | The Smart Meters should offer an option configurable in the MDMS to immediately disconnect the power to the Electricity Consumer upon an illegal Smart Meter terminal cover open being detected. |
| Bidder Response                         |                                                                                                                                                                                                  |
| 3.2.1.7<br><b>Mandatory Requirement</b> | It shall not possible to access any communication port without opening the terminal cover or any other cover.                                                                                    |
| Bidder Response                         |                                                                                                                                                                                                  |

### 3.2.2 Security

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 3.2.2.1<br><b>Mandatory Requirement</b> | The Bidder shall ensure that access to the configurable elements of the Smart Meter software is restricted through a secure user name and password system.                                                                                                                                                                                                                                                                                                       |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.2.2.2<br><b>Mandatory Requirement</b> | The Bidder is required to ensure that it is possible for administrators to restrict user permissions to match the jobs that individuals are required to do, and to create groups of users having the same set of user permissions. These permissions shall only allow users to access data and configurable items associated with their permission level. It shall be possible to create at least three permission levels (administrator plus two other levels). |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.2.2.3<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the system shall capture logs of user activities and user logins. The log shall specify the time the time of each activity.                                                                                                                                                                                                                                                                                                         |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.2.2.4<br><b>Mandatory Requirement</b> | The MDMS shall not all any manual modification of Smart Meter readings.                                                                                                                                                                                                                                                                                                                                                                                          |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.2.2.5<br><b>Mandatory Requirement</b> | The MDMS user login password shall require a combination of upper and lower case letters as well as digits. The passwords shall be encrypted within the database, and require changing every 3 months. For the most critical operations, the MDMS shall require two-factor authentication.                                                                                                                                                                       |



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| Bidder<br>Response |  |
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| 3.2.2.6<br><b>Mandatory Requirement</b>  | Use of the MIA shall be username and password protected. The username and password shall be configured in the MDMS.                                                                                                                                                                                                 |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.7<br><b>Mandatory Requirement</b>  | Each MIA license shall be restricted to a unique mobile phone identification number. Communication by the MIA to the MDMS using an unauthorized mobile phone shall be rejected.                                                                                                                                     |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.8<br><b>Mandatory Requirement</b>  | Smart Meter software is updatable in a secure manner with only authorized software able to be loaded into the Meter.                                                                                                                                                                                                |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.9<br><b>Mandatory Requirement</b>  | Any write command to the Smart Meter such as date & time, sampling rate, etc. can be configurable to result in an alert to the MDMS. The Smart Meters have triggering devices which allows the operator to view all alerts. Once the alert events are closed, the Smart Meters are available to be triggered again. |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.10<br><b>Mandatory Requirement</b> | Session checking is performed on each page of the MDMS every 20 minutes.                                                                                                                                                                                                                                            |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.11<br><b>Mandatory Requirement</b> | All SQL scripts in the MDMS are protected in stored procedures.                                                                                                                                                                                                                                                     |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.12<br><b>Mandatory Requirement</b> | All communications interfaces support only the protocols and functionality required for communications with Smart Meter Assets. It does not allow extra capability which is not specified by the system elements.                                                                                                   |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |
| 3.2.2.13<br><b>Mandatory Requirement</b> | The MDMS shall have the necessary security measures such as a changing entrance key preventing automatic “key” generation machines to break into the system.                                                                                                                                                        |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                     |

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| 3.2.2.14<br><b>Mandatory Requirement</b>                    | The MDMS should be secured with SSL 128 bit certification by Verisign.        |
| <a href="#">Enter Compliance Code &amp; Bidder Response</a> |                                                                               |
| 3.2.2.15<br><b>Mandatory Requirement</b>                    | The MDMS should be secured with a security hardware dongle and a license key. |
| <a href="#">Bidder Response</a>                             |                                                                               |

### 3.2.3 Standards

|                                                             |                                                                                                                                                                                                         |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.2.3.1<br><b>Desirable Requirement</b>                     | The Bidder should ensure that industry standard hardware and software (COTS) shall be used wherever possible. The need for custom development shall be minimised.                                       |
| <a href="#">Enter Compliance Code &amp; Bidder Response</a> |                                                                                                                                                                                                         |
| 3.2.3.2<br><b>Respond</b>                                   | The Bidder should identify any part of their proposed solution where custom development will be required.                                                                                               |
| <a href="#">Bidder Response</a>                             |                                                                                                                                                                                                         |
| 3.2.3.3<br><b>Mandatory Requirement</b>                     | The Bidder shall ensure that all communication protocols used in the Smart Meter Solution shall be freely available to all third party suppliers who may be required to support them in their products. |
| <a href="#">Bidder Response</a>                             |                                                                                                                                                                                                         |

### 3.2.4 Prepayment and Vending

|                                         |                                                                                                                                                                                                                                                                                                                                                             |
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| 3.2.4.1<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the proposed Smart Meter Assets shall be capable of sending a reminder to Electricity Consumers when their credit is low. As the account balance approaches zero, the MDMS system initiates a message to the Electricity Consumer and sends it via a configurable communications method, as a minimum text message, and email. |
| <a href="#">Bidder Response</a>         |                                                                                                                                                                                                                                                                                                                                                             |

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|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3.2.4.2<br/>Mandatory<br/>Requirement</b> | <p>When the Smart Meter accepts the prepayment token, the Smart Meter Back End System shall receive a confirmation from the Smart Meter via the two way communication that the prepayment token has been successfully loaded.</p> <p>The MDMS shall then read the credit balance in that Smart Meter. With every increase in the kilowatt hour balance reported by each Smart Meter, the MDMS shall automatically verify with the billing system and VMS that this increase in credit balance is supported by a legal transaction. The Back End system logs all activity with the Smart Meter so that records are maintained and available for authorized Utility personnel to verify the individual who loaded the credit, whether the loading of credit was performed automatically or manually, the time of the transaction and the amount.</p> <p>There should be an option to automatically send an SMS or email to the Electricity Consumer confirming that this process is complete.</p> |
| <b>Bidder<br/>Response</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>3.2.4.3<br/>Mandatory<br/>Requirement</b> | <p>The Smart Meter shall be able to store credit payment information within the local Smart Meter memory and continue to measure consumption and deduct the associated credit balance in real time, even in the event that communications to the MDMS is lost. Once communications to the MDMS is restored, the Smart Meter shall have the capability to update the MDMS with the latest consumption information and credit balance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Bidder<br/>Response</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>3.2.4.4<br/>Mandatory<br/>Requirement</b> | <p>It shall be possible to remotely control essential elements via the Smart Meter Communication Platform, such as the ability to:</p> <ul style="list-style-type: none"> <li>(i) Remotely credit a Smart Meter;</li> <li>(ii) Remotely switch a Smart Meter between credit and pre-payment mode; and</li> <li>(iii) Send immediate online tariff changes to the Smart Meter and Point of Sale terminals.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Bidder<br/>Response</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>3.2.4.5<br/>Mandatory<br/>Requirement</b> | <p>The system shall offer the option to remotely configure the automatic disconnection policy when credit is exhausted.</p> <p>Option to set parameters according to each customer (or group) profile:</p> <ul style="list-style-type: none"> <li>2 Set friendly “over-draft” credit. A small amount of emergency credit, so that Electricity Consumers can avoid loss of service in the middle of the night. The “friendly” emergency over draft credit utilized shall be immediately subtracted from the next payment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | <p>3 Another option in the case that the Electricity Consumer did not pay on-time is to allow the Electricity Consumer to consume small amounts of energy (only for lights and refrigerator) before full disconnection.</p> <p>4 Not automatically dis-connect on weekends or holidays.</p> <p>5 Flagging of accounts for “critical need” or “lifeline” customers (who use, for instance, vital breathing equipment), so that disconnection does not endanger health and safety.</p> |
| Bidder<br>Response |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| 3.2.4.6<br><b>Mandatory Requirement</b>  | The Smart Meter shall offer at least 128 friendly credit dates can be stored in the Smart Meters. These dates can be updated locally via the optic port and via the Smart Meter Communication Platform.                                                                                                                  |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.7<br><b>Mandatory Requirement</b>  | The Smart Meters type specified within this RFP are split meter configurations. The Smart Meters communicate with the CIU via PLC.<br><br>For Smart Meters communicating with GPRS or LAN rather than PLC, then the Smart Meter should offer an on-board PLC chip for communication between the Smart Meter and the CIU. |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.8<br><b>Mandatory Requirement</b>  | The Bidder shall ensure that the Smart Meters accept payment tokens on the basis of currency and not kWh.                                                                                                                                                                                                                |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.9<br><b>Mandatory Requirement</b>  | The vending solution should incorporate various payment methods, at an unlimited number of points of sale locations. The vending solution should supports a number of vending channels including:<br><br>1. Mobile money.<br>1. Internet.<br>• Point of sale.                                                            |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.10<br><b>Mandatory Requirement</b> | All prepayment commands must be encrypted according to the STS standard.                                                                                                                                                                                                                                                 |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.11<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the policy to disconnect or reconnect an Electricity Consumer whose credit balance falls below a particular threshold shall be configurable from the MDMS.                                                                                                                                  |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |
| 3.2.4.12<br><b>Mandatory Requirement</b> | The Bidder shall ensure that communication between the Smart Meter and the MDMS shall be maintained indefinitely after the Electricity Consumer's power has been disconnected to ensure that power can be restored as soon as payment has been received.                                                                 |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                          |

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| 3.2.4.12<br><b>Mandatory Requirement</b> | <p>The Smart Meter shall comply with the following standards:</p> <ul style="list-style-type: none"> <li>• IEC 62055-41.</li> <li>• IEC 62055-51.</li> </ul> <p>A copy of all approval certificates should be submitted with the bid response.</p> |
| Bidder Response                          |                                                                                                                                                                                                                                                    |

### 3.2.5 Demand Response

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 3.2.5.1<br><b>Mandatory Requirement</b> | <p>For peak load management, the Smart Meter shall provide a facility to limit the Electricity Consumer's total load to a configurable current. Above this limit, supply to the Electricity Consumer shall be interrupted after a pre-configurable delay period.</p> <p>This load limit should be able to be defined for each individual Smart Meter or group of consumers.</p> <p>The peak load limiting capability shall be configurable locally and via the Smart Meter Communication Platform.</p> <p>The time duration of restricted current/ disconnection should be set at varying levels for individual Smart Meters/group of Electricity Consumers.</p> <p>The current limit and/or maximum load should be programmable locally at the Smart.</p> |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3.2.5.2<br><b>Mandatory Requirement</b> | <p>Under-frequency circuitry should be built into the Smart Meters for rapid demand response and dynamic pricing. The closed loop Smart Meters with under-frequency circuitry installed should continuously monitor frequencies, and react within 120ms to frequency variations and execute demand response or dynamic pricing processes.</p> <p>In demand response events, automatic reconnection should occur after a configurable period if frequency is within limits defined.</p>                                                                                                                                                                                                                                                                     |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3.2.5.3<br><b>Mandatory Requirement</b> | <p>Each Smart Meter shall have a remotely programmable normal load threshold limit, which can be set remotely from the MDMS. These settings in the Smart Meters, protect the circuit breakers belonging to the Utility. If</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                         | demand exceeds a certain level (i.e. 100 amps) automatic disconnection occurs with automatic reconnection.                                                                                                                                                                                                                                                                                                                                                         |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3.2.5.4<br><b>Mandatory Requirement</b> | <p>Controlled load management shall be remotely settable for each Smart Meter individually, or for groups of Smart Meters.</p> <p>A single load limitation command sent to a certain Smart Meter or consumer group limits the load (each consumer or group can be a different pre-defined value).</p> <p>For example, only those consumers specified as industrial with capacity over a certain amount, or only those consumers consuming an excessive amount.</p> |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3.2.5.5<br><b>Mandatory Requirement</b> | It shall be possible to disable the peak load limiting capability for vulnerable Electricity Consumers such as patients on dialysis; frail/elderly and emergency services. This shall be a configuration option that can be changed locally or remotely by authorised personnel.                                                                                                                                                                                   |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3.2.5.6<br><b>Mandatory Requirement</b> | It shall be possible for Electricity Consumers to restore the supply locally following an interruption caused by exceeding the peak load limit.                                                                                                                                                                                                                                                                                                                    |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 3.3 Architecture

|                         |                                                                                                                                                                |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.3.1<br><b>Respond</b> | The Bidder is requested to provide a schematic drawing of their proposed solution architecture.                                                                |
| Bidder Response         |                                                                                                                                                                |
| 3.3.2<br><b>Respond</b> | The Bidder is requested to clearly identify all areas where their proposed solution differs from the Reference Architecture detailed in Section 4 of this RFP. |
| Bidder Response         |                                                                                                                                                                |
| 3.3.3<br><b>Respond</b> | The Bidder is requested to provide a detailed overview (narrative) of all the major components, systems and technologies used in their proposed solution.      |

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| Bidder Response |                                                                                                                                                           |
| 3.3.4 Respond   | The Bidder is requested to provide full details of where components are bespoke, and the degree to which COTS products will require configuration/update. |
| Bidder Response |                                                                                                                                                           |

### 3.4 Smart Meters – Electrical Requirements

#### 3.4.1 Common Requirements and Functionality

|                                  |                                                                                                                                                                             |                         |                 |
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| 3.4.1.1<br>Mandatory Requirement | The Bidder shall ensure that the proposed Smart Meters shall include lightning and power surge protection to prevent against destruction such as a severe lightning strike. |                         |                 |
|                                  | The Bidder shall specify if the level of voltage impulse strength conforms to the requirements below:                                                                       |                         |                 |
|                                  | 1. Single phase Smart Meters: at least 12kV with 1.2/50us.                                                                                                                  |                         |                 |
|                                  | 2. Three phase Smart Meters: at least 6kV with 1.2/50us.                                                                                                                    |                         |                 |
| Bidder Response                  |                                                                                                                                                                             |                         |                 |
| 3.4.1.2<br>Mandatory Requirement | The nominal voltage and current range of each Smart Meter shall be as specified here:                                                                                       |                         |                 |
|                                  | METER TYPE                                                                                                                                                                  | CONFIGURATION           | NOMINAL VOLTAGE |
|                                  | Single-phase, whole current (5A to 100A)                                                                                                                                    | Single-phase, two wire  | 230             |
|                                  | Three-phase, whole current (5A to 100A)                                                                                                                                     | Three-phase, four wire  | 230/400         |
|                                  | Three-phase, CT connected (1A to 5A)                                                                                                                                        | Three-phase, three wire | 110             |

|                                             |                                                                                                                                    |
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| Bidder<br>Response                          |                                                                                                                                    |
| 3.4.1.3<br><b>Mandatory<br/>Requirement</b> | Smart Meters shall support a frequency of 50Hz with at least $\pm 5\%$ variation.                                                  |
| Bidder<br>Response                          |                                                                                                                                    |
| 3.4.1.4<br><b>Mandatory<br/>Requirement</b> | All parts of a Smart Meter shall be fully functional over an operating temperature range of at least -40°C to 70°C.                |
| Bidder<br>Response                          |                                                                                                                                    |
| 3.4.1.5<br><b>Mandatory<br/>Requirement</b> | Smart Meters shall measure, record and totalise electricity consumption in kWh.                                                    |
| Bidder<br>Response                          |                                                                                                                                    |
| 3.4.1.6<br><b>Mandatory<br/>Requirement</b> | Three-phase meters shall measure, record and totalise electricity consumption in kVA and kVar to enable power factor calculations. |
| Bidder<br>Response                          |                                                                                                                                    |

|                                          |                                                                                                                                                                                           |                                                  |                          |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------|
| 3.4.1.7<br><b>Mandatory Requirement</b>  | The Bidder shall specify the dimensions of their proposed Smart Meters which should not be greater than:                                                                                  |                                                  |                          |
|                                          | <b>DIMENSION</b>                                                                                                                                                                          | <b>SINGLE PHASE METER</b>                        | <b>THREE PHASE METER</b> |
|                                          | Width (mm)                                                                                                                                                                                | <115                                             | <175                     |
|                                          | Height (mm)                                                                                                                                                                               | <203                                             | <295                     |
|                                          | Depth (mm)                                                                                                                                                                                | <75                                              | <90                      |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.8<br><b>Mandatory Requirement</b>  | The terminals for whole current Smart Meters shall have a bore diameter of at least 8mm. The terminals for transformer-connected Smart Meters shall have a bore diameter of at least 4mm. |                                                  |                          |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.9<br><b>Mandatory Requirement</b>  | Smart Meters shall be capable of passing 120% of its thermal rating continuously.                                                                                                         |                                                  |                          |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.10<br><b>Mandatory Requirement</b> | Voltage range of operation at least: -40% to +30% Un.                                                                                                                                     |                                                  |                          |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.11<br><b>Mandatory Requirement</b> | The weight of each Smart Meter shall be no more than specified here:<br>(i) Single phase: 0.95kg.<br>(ii) Three phase: 2.9kg.                                                             |                                                  |                          |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.12<br><b>Mandatory Requirement</b> | The Smart Meter Protection Class shall be at least IP54.                                                                                                                                  |                                                  |                          |
| Bidder Response                          |                                                                                                                                                                                           |                                                  |                          |
| 3.4.1.13<br><b>Mandatory Requirement</b> | <b>METER TYPE</b>                                                                                                                                                                         | <b>VOLTAGE CIRCUIT</b>                           | <b>CURRENT CIRCUIT</b>   |
|                                          | Single-phase                                                                                                                                                                              | <1.5W (10VA), <3W (12VA) including communication | <1.2VA                   |
|                                          | Three-phase (per phase)                                                                                                                                                                   | <1.5W (6VA), <8W when communication              | <0.2VA                   |

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|                                          | Three-phase CT<br>Operated (1 or 5 A)                                                                                                                                                                                                                                                          | <5mW (5mVA) and<br><125mW (125mVA) | <1VA |
| Bidder<br>Response                       |                                                                                                                                                                                                                                                                                                |                                    |      |
| 3.4.1.14<br><b>Mandatory Requirement</b> | All Smart Meters shall be accompanied by drawings of the electrical termination and cabling details. These diagrams shall also be mounted on the metering device, under the terminal cover.                                                                                                    |                                    |      |
| Bidder<br>Response                       |                                                                                                                                                                                                                                                                                                |                                    |      |
| 3.4.1.15<br><b>Respond</b>               | The Bidder is requested to provide detailed specifications for each type of Smart Meter proposed for this solution. The specifications should cover the electrical performance of the Smart Meter, the Smart Meter functionality and the communications modules available for the Smart Meter. |                                    |      |
| Bidder<br>Response                       |                                                                                                                                                                                                                                                                                                |                                    |      |

### 3.4.2 Metrology Accuracy

|                                         |                                                                                                                                                                                               |              |                      |                                 |                      |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------|---------------------------------|----------------------|
| 3.4.2.1<br><b>Mandatory Requirement</b> | The Smart Meter shall have a Metrology Accuracy of at least Class 1.                                                                                                                          |              |                      |                                 |                      |
| Bidder<br>Response                      |                                                                                                                                                                                               |              |                      |                                 |                      |
| 3.4.2.2<br><b>Mandatory Requirement</b> | Current Transformer and Voltage Transformer fed Smart Meters shall cater for the following International Standards:                                                                           |              |                      |                                 |                      |
|                                         | <b>ACTIVE ENERGY (kwh)</b>                                                                                                                                                                    |              |                      | <b>RE-ACTIVE ENERGY (kVarh)</b> |                      |
|                                         | <b>ITEM</b>                                                                                                                                                                                   | <b>CLASS</b> | <b>SPECIFICATION</b> | <b>CLASS</b>                    | <b>SPECIFICATION</b> |
|                                         | 1                                                                                                                                                                                             | 0.5s         | IEC 62052-11         | 0.5s                            | IEC 62053 part 24    |
|                                         | 2                                                                                                                                                                                             | 0.2s         | IES 62053-22         | 0.5                             | IEC 62053 part 24    |
|                                         | 3                                                                                                                                                                                             | 0.5          | XXX                  | 2 & 3                           | IEC 62053-23         |
| Bidder<br>Response                      |                                                                                                                                                                                               |              |                      |                                 |                      |
| 3.4.2.3<br><b>Mandatory Requirement</b> | A copy of the Smart Meter test and calibration certificates shall be included with the Smart Meter when dispatched from the factory, and a soft copy shall be sent to the Utility for record. |              |                      |                                 |                      |

### 3.4.3 Pulse Outputs

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| 3.4.3.1<br><b>Mandatory Requirement</b> | <p>The three phase Smart Meters shall have two verification impulse output LED's i.e. an impulse for active energy and an active pulse for reactive energy. These impulses shall be fully configurable in terms of the energy value of each pulse.</p> <p>The single phase Smart Meters shall have one verification impulse output LED i.e. representing kWh. This impulse shall be fully configurable in terms of the energy value of each pulse.</p> |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### 3.4.4 Time Clock Synchronization

|                                         |                                                                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.4.4.1<br><b>Mandatory Requirement</b> | The date and time within Smart Meters shall be maintained within 0.5 seconds per day of local time.                                                                                                                                           |
| Bidder Response                         |                                                                                                                                                                                                                                               |
| 3.4.4.2<br><b>Mandatory Requirement</b> | The clock in each Smart Meter shall be automatically synchronized through the MDMS and locally through the optical interface. Synchronisation of the Smart Meter clock shall not be based on power system frequency.                          |
| Bidder Response                         |                                                                                                                                                                                                                                               |
| 3.4.4.3<br><b>Mandatory Requirement</b> | Following loss of mains supply, battery backup must provide at least a capacity of 7 days of continuous operation of supply of RTC.                                                                                                           |
| Bidder Response                         |                                                                                                                                                                                                                                               |
| 3.4.4.4<br><b>Mandatory Requirement</b> | The time in the Smart Meters are to be checked by the server on a daily basis. Future time changes are remotely transferred and saved in the Smart Meters for immediate update to the meters' real-time clock at the scheduled date and time. |
| Bidder Response                         |                                                                                                                                                                                                                                               |

### 3.4.5 Smart Meter Contactor

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| <b>3.4.5.1<br/>Mandatory<br/>Requirement</b> | The single phase and three phase (direct connected) Smart Meters must have an internal contactor for disconnecting the supply.      |
| Bidder<br>Response                           |                                                                                                                                     |
| <b>3.4.5.2<br/>Mandatory<br/>Requirement</b> | The internal contactor should comply with the EN 62054-21 standard.                                                                 |
| Bidder<br>Response                           |                                                                                                                                     |
| <b>3.4.5.3<br/>Mandatory<br/>Requirement</b> | The load contactor for both the single phase and three phase (direct connected) Smart Meters should be rated at a minimum of 100 A. |
| Bidder<br>Response                           |                                                                                                                                     |

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| 3.4.5.4<br><b>Mandatory Requirement</b> | The Bidder shall ensure that their proposed Smart Meters shall disconnect or reconnect the Electricity Consumer's power in response to commands from the MDMS or from a local handheld terminal (both single and three phase meters).                                                                       |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                             |
| 3.4.5.5<br><b>Mandatory Requirement</b> | The Bidder shall ensure that their proposed Smart Meters shall be able to report whether the Electricity Consumer's power is currently connected or disconnected.                                                                                                                                           |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                             |
| 3.4.5.6<br><b>Mandatory Requirement</b> | The Bidder shall ensure that all of the Smart Meter's functionality (apart from allowing electricity to pass) shall continue to operate as normal when an Electricity Consumer's power has been disconnected.                                                                                               |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                             |
| 3.4.5.7<br><b>Mandatory Requirement</b> | The Bidder shall ensure that when an Electricity Consumer's electricity supply has been disconnected using the Smart Meter, it shall not be possible for faults within the Smart Metering Systems to cause the restoration of the supply.                                                                   |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                             |
| 3.4.5.8<br><b>Mandatory Requirement</b> | Where loss of supply has occurred for reasons outside of the control of the Smart Meter (e.g. network power failure or the removal of the house service fuse), the Bidder shall ensure that the Smart Meter shall retain the setting of the contactor prior to the supply loss when the supply is restored. |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                             |

### 3.4.6 Back-up Batteries

|                                         |                                                                                                                                                                                                             |
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| 3.4.6.1<br><b>Mandatory Requirement</b> | Bidders should ensure that the batteries used to maintain vital Smart Metering functions during a power outage, are supported by a battery and super capacitor and have a minimum service life of 20 years. |
| Bidder Response                         |                                                                                                                                                                                                             |
| 3.4.6.2<br><b>Mandatory Requirement</b> | The minimum battery self-power to maintain consumption recording operation per Smart Meter type during temporary power losses shall be 15 days.                                                             |

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| Bidder<br>Response |  |
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| 3.4.6.3<br><b>Mandatory Requirement</b> | Bidders shall ensure that where batteries are used to maintain vital metering functions during a power outage, then the batteries shall be leak resistant. |
| Bidder Response                         |                                                                                                                                                            |
| 3.4.6.4<br><b>Mandatory Requirement</b> | Any attempt to open the terminal/meter covers during outage, will be registered and transferred to the MDMS once power is restored.                        |
| Bidder Response                         |                                                                                                                                                            |

### 3.4.7 EMC (Electromagnetic Compatibility)

|                                         |                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.4.7.1<br><b>Mandatory Requirement</b> | Voltage dips and short interruptions: Smart Meters shall be tested in accordance with IEC62052-11 (or equivalent) as appropriate.                   |
| Bidder Response                         |                                                                                                                                                     |
| 3.4.7.2<br><b>Mandatory Requirement</b> | Voltage transients on supply lines and/or signal lines: Smart Meters shall be tested in accordance with IEC62052-11 (or equivalent) as appropriate. |
| Bidder Response                         |                                                                                                                                                     |
| 3.4.7.3<br><b>Mandatory Requirement</b> | Electrostatic discharges: Smart Meters shall be tested in accordance with IEC62052-11 (or equivalent) as appropriate.                               |
| Bidder Response                         |                                                                                                                                                     |
| 3.4.7.4<br><b>Mandatory Requirement</b> | Radio frequency electromagnetic fields: Smart Meters shall be tested in accordance with IEC62052-11 (or equivalent) as appropriate.                 |
| Bidder Response                         |                                                                                                                                                     |
| 3.4.7.5<br><b>Mandatory Requirement</b> | Conducted radio frequency electromagnetic fields on supply lines and/or signal lines: Smart Meters shall be tested in accordance with MID Annex D.  |
| Bidder Response                         |                                                                                                                                                     |

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| 3.4.7.6<br><b>Mandatory Requirement</b> | Voltage variation: Smart Meters shall be tested in accordance with MID Annex D. |
| Bidder<br>Response                      |                                                                                 |

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| 3.4.7.7<br><b>Mandatory Requirement</b> | The Smart Meter shall meet the radio interference suppression requirements of EN 55022 (or equivalent). |
| Bidder Response                         |                                                                                                         |

### 3.4.8 Meter Safety

|                                         |                                                                                                                                                                                                                                                         |
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| 3.4.8.1<br><b>Mandatory Requirement</b> | Smart Meters shall have all electrical parts and terminal connectors (e.g. power supply terminals, plugs and sockets etc.) inaccessible and/or insulated and protected such as to prevent inadvertent contact by the installer or Electricity Consumer. |
| Bidder Response                         |                                                                                                                                                                                                                                                         |
| 3.4.8.2<br><b>Mandatory Requirement</b> | Smart Meters shall be manufactured to conform to protective class II.                                                                                                                                                                                   |
| Bidder Response                         |                                                                                                                                                                                                                                                         |

### 3.5 Smart Meters – Functional Requirements

|                                       |                                                                                                                                                                                                                                                                                                                                    |
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| 3.5.1<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the proposed Smart Meters shall support a full range of time-of-use (TOU) tariff options. At a minimum: 4 tariffs, 2 sets of tariff and table structures. Each table includes at least 2 time zones per year, 8 possible tier switches per day, with holiday, weekend, Saturday and Sunday schedules. |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                    |
| 3.5.2<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the proposed Smart Meters supports a combination of TOU and Step Inclined Tariff.                                                                                                                                                                                                                     |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                    |
| 3.5.3<br><b>Mandatory Requirement</b> | Smart Meters shall be capable of being remotely configured for maximum load, tariff tables, time and date synchronization.                                                                                                                                                                                                         |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                    |

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| 3.5.4<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the proposed Smart Meters shall send load profile data including: positive and reverse active energy, current, voltage, frequency, and power factor to MDMS on a regular basis according to pre-defined configurable schedule. |
| Bidder<br>Response                    |                                                                                                                                                                                                                                                             |

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| 3.5.5<br><b>Mandatory Requirement</b>  | The Bidder shall ensure that the proposed Smart Meters shall support on-demand ad hoc requests from the MDMS for Smart Meter data.                                                                                                                                              |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |
| 3.5.6<br><b>Mandatory Requirement</b>  | The Bidder shall ensure that their proposed Smart Meters shall provide an accurate time stamp for each Smart Meter reading.                                                                                                                                                     |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |
| 3.5.7<br><b>Mandatory Requirement</b>  | The three phase Smart Meters shall record active and reactive energy in all four quadrants.                                                                                                                                                                                     |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |
| 3.5.8<br><b>Mandatory Requirement</b>  | The Bidder shall ensure that manual Smart Meter reading shall be possible if communication is lost with the Smart Meter.                                                                                                                                                        |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |
| 3.5.9<br><b>Mandatory Requirement</b>  | The Bidder shall ensure that their proposed Smart Meters shall detect and record Smart Meter alarms and events (including tampering, power quality, power outages, and phase failures, etc.) and shall provide near real time reporting of those alarms and events to the MDMS. |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |
| 3.5.10<br><b>Mandatory Requirement</b> | The Bidder shall ensure that their proposed Smart Meters shall collect and report basic power quality information, at a minimum: over-current, power outages, per phase voltage and current, average power factor, line frequency etc.                                          |
| Bidder Response                        |                                                                                                                                                                                                                                                                                 |

### 3.5.1 Data storage and memory

|                                         |                                                                                                                                                                                                                                                                                                                                  |
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| 3.5.1.1<br><b>Mandatory Requirement</b> | <p>The Bidder shall ensure that the proposed Smart Meters shall store the last 200 days of readings at 15-minute intervals with:</p> <ol style="list-style-type: none"> <li>1. minimum of 14 data registers for single phase Smart Meters; and</li> <li>2. minimum of 26 data registers for three phase Smart Meters.</li> </ol> |
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| Bidder<br>Response |  |
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| 3.5.1.2<br><b>Mandatory Requirement</b> | The Smart Meter shall be capable of storing the event and alarm data that would be generated in a typical period of 120 days.                                                  |
| Bidder Response                         |                                                                                                                                                                                |
| 3.5.1.3<br><b>Mandatory Requirement</b> | All data and events shall be date and time stamped at the Smart Meter with a resolution of 1 minute or better.                                                                 |
| Bidder Response                         |                                                                                                                                                                                |
| 3.5.1.4<br><b>Mandatory Requirement</b> | During loss of power, the Smart Meter memory shall have a minimum retention time equal to the operational design life of the Smart Meter over the specified temperature range. |
| Bidder Response                         |                                                                                                                                                                                |
| 3.5.1.5<br><b>Mandatory Requirement</b> | Where Smart Meter data is being continually updated, the data storage shall operate on an over-write First In First Out (FIFO) basis.                                          |
| Bidder Response                         |                                                                                                                                                                                |
| 3.5.1.6<br><b>Mandatory Requirement</b> | All data held in Smart Meter memory shall be accessible, both locally and remotely, by authorised personnel.                                                                   |
| Bidder Response                         |                                                                                                                                                                                |

### 3.5.2 Power Export

Where the Electricity Consumer has a solar panel or some other form of power generation, it will be necessary to measure the power generated as well as the power consumed. This capability must be provided in a single bi-directional Smart Meter.

|                                         |                                                                                                                                                                                                          |
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| 3.5.2.1<br><b>Mandatory Requirement</b> | The Smart Meter shall support 48 Time of Use (TOU) export registers storing measured exported energy in kWh. Each Energy value should be able to be measured with maximum 4 tariffs (T1, T2, T3 and T4). |
| Bidder Response                         |                                                                                                                                                                                                          |
| 3.5.2.2<br><b>Mandatory Requirement</b> | The Smart Meter shall be capable of storing pricing information for exported energy.                                                                                                                     |

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| Bidder<br>Response |  |
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| 3.5.2.3<br><b>Mandatory Requirement</b> | The Smart Meter shall be able to display total generation as a total exported value, and current rate of export.                                                                                                                                                                                                                                                                                                                                                                                       |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3.5.2.4<br><b>Mandatory Requirement</b> | The three phase Smart Meters shall measure and record Positive (Import) Active Energy (+A) and Negative (Export) Active Energy (-A). They should also be able to set the Combined Active Energy with $ +A + -A $ or $ +A - -A $ . The Smart Meter should also record Combined Active Energy +A and -A. For Electricity Consumers with energy production installations, with both Import and Export of Active Energy, the Smart Meter should calculate and produce billing with +A and -A individually. |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### 3.5.3 Communication with Smart Meters

Bi-directional communication is required between the MDMS and the installed base of Smart Meters. Furthermore, communications technologies tend to have a shorter working life than Smart Meters, so provision must be made for upgrading the communication technology during the life of the Smart Meters.

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| 3.5.3.1<br><b>Mandatory Requirement</b> | All Smart Meters shall support bi-directional communication with the MDMS.                                                                                                                                                                                                                                 |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                            |
| 3.5.3.2<br><b>Mandatory Requirement</b> | Smart Meters shall respond to commands from the MDMS in near real time.                                                                                                                                                                                                                                    |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                            |
| 3.5.3.3<br><b>Mandatory Requirement</b> | Smart Meters shall support a range of different communication options including, but not limited to: Power Line Communication, serial RS232, mobile data (dual standard GPRS/3G), and Ethernet. The Bidder shall detail which communications options are available for each type of Smart Meters proposed. |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                            |

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| 3.5.3.4<br><b>Mandatory Requirement</b> | The RS485 communication interface should include at least 4 digital outputs, isolated from all other meter circuits with fail-safe circuitry able to withstand AC 230V for 2 minutes without damage. |
| Bidder<br>Response                      |                                                                                                                                                                                                      |

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| 3.5.3.5<br><b>Mandatory Requirement</b>  | The Smart Meters should feature a hot swappable, field replaceable, plug-in communications module inside the Smart Meter casing enabling plug-and-play flexibility with the options of PLC, GPRS and LAN communications, without dismantling the meter and without the need to upgrade the Smart Meter firmware. It should be possible for authorised personnel to remove and replace communications modules contained within the Smart Meter without de-energising the Smart Meter. |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.6<br><b>Mandatory Requirement</b>  | Communications modules (including mobile SIM cards) shall be physically protected against theft and unauthorised access.                                                                                                                                                                                                                                                                                                                                                             |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.7<br><b>Mandatory Requirement</b>  | The Bidder shall guarantee PLC communication achieves two-way communications between the Smart Meter and the concentrator over a distance of at least two kilometres through the electricity wires (aluminium / copper).                                                                                                                                                                                                                                                             |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.8<br><b>Mandatory Requirement</b>  | The Bidder shall guarantee PLC communication reliability of at least 99% first time correct data reception over any Utility power line (<1% data packets requiring retransmission due to data corruption). In addition the Bidder shall guarantee PLC communication reliability of hourly readings with greater than 95% success and daily readings of at least 99% success. Response time to manual reading request should not take longer than 5 seconds.                          |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.9<br><b>Mandatory Requirement</b>  | If GPRS/3G is being used for Smart Meter communication, the SIM card shall be installed inside the Smart Meter or communications module casing so that it is difficult to steal. The Bidder should explain how they propose to meet this requirement.                                                                                                                                                                                                                                |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.10<br><b>Mandatory Requirement</b> | All Smart Meters should have the capability to communicate with devices such as Consumer Interface Units and Load Control Units via PLC, with a range of at least 500 meters.                                                                                                                                                                                                                                                                                                        |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.5.3.11<br><b>Desirable Requirement</b> | The Smart Meter Solution should make provision for the future incorporation of smart water and gas meters into the architecture.                                                                                                                                                                                                                                                                                                                                                     |

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| Enter<br>Compliance<br>Code & Bidder<br>Response |  |
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| 3.5.3.12<br><b>Mandatory Requirement</b> | The Smart Meter must include an infrared communications port with a secure mechanism provided for local data collection or local configuration of the Smart Meter by authorised personnel.                                                                                           |
| Bidder Response                          |                                                                                                                                                                                                                                                                                      |
| 3.5.3.13<br><b>Mandatory Requirement</b> | The Smart Meters and DCU should communicate via PLC, in accordance to IEC1901-2.                                                                                                                                                                                                     |
| Bidder Response                          |                                                                                                                                                                                                                                                                                      |
| 3.5.3.14<br><b>Desirable Requirement</b> | The Bidder shall ensure that the Smart Meter data using RS485 communications shall be uploaded in an open standard protocol that will enable easy integration between each type of Smart Meter and the MDMS.                                                                         |
| Enter Compliance Code & Bidder Response  |                                                                                                                                                                                                                                                                                      |
| 3.5.3.15<br><b>Mandatory Requirement</b> | The Bidder shall ensure that Smart Meter upgrades shall be possible by downloading new firmware from the MDMS as well as locally via the RS485 port.                                                                                                                                 |
| Bidder Response                          |                                                                                                                                                                                                                                                                                      |
| 3.5.3.16<br><b>Mandatory Requirement</b> | The DCU shall gather and translate alarm/event messages from the Smart Meters and shall transmit them to the MDMS. These messages shall include power outage alarms. The Bidder shall explain how they propose to meet this requirement.                                             |
| Bidder Response                          |                                                                                                                                                                                                                                                                                      |
| 3.5.3.17<br><b>Desirable Requirement</b> | It is desirable for the DCU to be able to broadcast to a pre-defined subset of Smart Meters, so that (for example) demand management could be implemented differently for business and residential Electricity Consumers. Bidders shall explain how they will meet this requirement. |
| Enter Compliance Code & Bidder Response  |                                                                                                                                                                                                                                                                                      |
| 3.5.3.18<br><b>Mandatory Requirement</b> | Each DCU shall be provided with GPRS/3G and Ethernet for communications with the MDMS, and PLC communications for managing the Smart Meters. In addition each DCU shall include as a minimum: Serial Interface, USB, and Infrared ports.                                             |
| Bidder Response                          |                                                                                                                                                                                                                                                                                      |
| 3.5.3.19                                 | Each DCU shall support a minimum of 2,000 Smart Meters.                                                                                                                                                                                                                              |

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| <b>Mandatory Requirement</b>             |                                                                                                                                                                                                                                                                                                                                                                              |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                              |
| 3.5.3.20<br><b>Mandatory Requirement</b> | Each DCU shall also include in-built metering capability (class 1).                                                                                                                                                                                                                                                                                                          |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                              |
| 3.5.3.21<br><b>Mandatory Requirement</b> | In case of a phase loss, the DCU shall still function.                                                                                                                                                                                                                                                                                                                       |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                              |
| 3.5.3.22<br><b>Mandatory Requirement</b> | The concentrator should provide information on GPRS signal quality to the MDMS.                                                                                                                                                                                                                                                                                              |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                              |
| 3.5.3.23<br><b>Mandatory Requirement</b> | The Bidder shall provide a technical specification of the DCU and detailed narrative on the operation of the PLC platform proposed (from the Smart Meter to the DCU). This narrative should include any prerequisites on the quality of the LV network to ensure reliable communications that meet the reliability and availability parameters detailed earlier in this RFP. |
| Bidder Response                          |                                                                                                                                                                                                                                                                                                                                                                              |

#### 3.5.4 Smart Meter Displays

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| 3.5.4.1<br><b>Mandatory Requirement</b> | All Smart Meter displays shall default to the English Language.                                                                                                                         |
| Bidder Response                         |                                                                                                                                                                                         |
| 3.5.4.2<br><b>Mandatory Requirement</b> | All displays shall be clear to read and easy to understand and:<br>a) Have a display size of 2 lines, 8 characters per line minimum.<br>b) Have a minimum main field digit size of 9mm. |
| Bidder Response                         |                                                                                                                                                                                         |
| 3.5.4.3                                 | If a backlight is used, the backlight shall be configurable to:                                                                                                                         |

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| <b>Mandatory Requirement</b>          | a) Operate or not (i.e. remain on or off).<br>b) Turn off after a set duration (to save energy / battery life).                                                                                                                                                                                                                                         |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.4 Mandatory Requirement</b>  | Smart Meters and associated Electricity Consumer interface units shall incorporate a clear and unambiguous display that indicates cumulative consumption. This display shall be accessible without tools.                                                                                                                                               |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.5 Mandatory Requirement</b>  | The Smart Meter reading shall have a resolution of at least 0.01kWh.                                                                                                                                                                                                                                                                                    |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.6 Mandatory Requirement</b>  | The display shall be certification sealed and access to the display shall not be possible without breaking the seal. No other modules of the Smart Meter shall be behind this metrological seal.                                                                                                                                                        |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.7 Mandatory Requirement</b>  | It shall not be possible to reset metrological cumulative registers.                                                                                                                                                                                                                                                                                    |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.8 Mandatory Requirement</b>  | Where the metrological display is also used for other purposes then its default condition shall be showing the most recent cumulative consumption. Where an Electricity Consumer has ceased interacting with the Smart Meter, the display shall return to showing the default condition within 30 seconds of the last Electricity Consumer interaction. |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.9 Mandatory Requirement</b>  | The display shall incorporate a facility to check that it is working correctly.                                                                                                                                                                                                                                                                         |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                         |
| <b>3.5.4.10 Mandatory Requirement</b> | The Smart Meter shall be capable of displaying the following information as a minimum:<br><br>a) Current value of active energy – total value and value for each tariff.<br>b) Previous 1 month value of active energy – total value and value for each tariff.                                                                                         |



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                 | <ul style="list-style-type: none"> <li>c) Previous 2 month value of active energy – total value and value for each tariff</li> <li>d) Current mode of operation;</li> <li>e) The status of the supply shut-off mechanism;</li> <li>f) The Electricity Consumer's tariff status;</li> <li>g) The time period for the Tariffs;</li> <li>h) Additional pre-payment information such as emergency credit threshold, alert that credit is low, token reading, token validation, token rejection, duplicate token, and the current account balance (how much credit is available).</li> <li>i) An indication of whether the Smart Meter is importing or exporting;</li> <li>j) Current import rate or export rate</li> <li>k) The load limit: <ul style="list-style-type: none"> <li>1) Power Load Limit Value 1 for Normal conditions.</li> <li>2) Power Load Limit Value 2 for On-Demand conditions</li> <li>3) Frequency Limit Value.</li> </ul> </li> <li>l) Meter running status: <ul style="list-style-type: none"> <li>1) Power.</li> <li>2) Line Voltage.</li> <li>3) Line Current.</li> <li>4) Neutral Current.</li> <li>5) Power factor.</li> </ul> </li> <li>a) Frequency.</li> <li>b) Current running status of Energy Consumption Step.</li> <li>c) Communications status: PLC, RS485 and IR.</li> <li>d) Meter locked after 3 attempts to enter a wrong password.</li> <li>e) Test Mode.</li> <li>f) Alarm.</li> <li>g) Present date and time.</li> <li>h) Communication address.</li> <li>i) Customer identification number.</li> <li>j) Error message. <ul style="list-style-type: none"> <li>1) Control Circuit Error.</li> <li>2) Battery Low Value.</li> <li>3) RTC Error.</li> <li>4) Authenticate Error.</li> <li>5) Changer Key Error.</li> </ul> </li> </ul> |
| Bidder Response |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

### 3.6 Consumer Interface Units (CIU)

The Consumer Interface Unit provides the ability for consumers to enter prepayment tokens. It can also provide the Electricity Consumer with a range of useful information relating to their current energy usage. More detailed Electricity Consumer information (e.g. usage variation by month, historical trends) shall be available via the Customer Portal web-based self-service facility.

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>3.6.1<br/><b>Mandatory Requirement</b></p> | <p>CIUs shall incorporate a clear and unambiguous graphical display, as least 255 characters long that indicates as a minimum:</p> <ul style="list-style-type: none"> <li>• The current level of consumption in kilowatts per hour.</li> <li>• Remaining Credit (in kilowatt hours).</li> <li>• Total energy.</li> <li>• Each tariff (start time, end time and price).</li> <li>• Current kVA.</li> <li>• Last credit token input date and time.</li> <li>• Current consumption cost per hour in the local currency.</li> <li>• Total monthly energy expressed as kW from the beginning of the calendar month.</li> <li>• Accumulated electricity cost from the beginning of the monthly billing period as set in the meter, expressed in the local currency.</li> <li>• Normal power limit to the maximum allowed kilowatt consumption from the beginning of the month.</li> <li>• Critical power limit, when electricity shortage is in effect, and is the limit to the maximum allowed kilowatt consumption from the beginning of the month.</li> <li>• Meter number.</li> <li>• Software version number.</li> </ul> |
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| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.2<br><b>Mandatory Requirement</b> | CIUs shall incorporate numeric keys for entering prepayment token numbers, and a backspace button.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.3<br><b>Mandatory Requirement</b> | The default screen should display the remaining credit in kilowatt hours. After consumer initiated interrogation, the default screen is resumed after a period of 1 hour in the absence of any further interrogation.                                                                                                                                                                                                                                                                                                           |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.4<br><b>Mandatory Requirement</b> | Entering the 20 digit prepayment token shall be possible from the main screen without the need to enter a different screen.                                                                                                                                                                                                                                                                                                                                                                                                     |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.5<br><b>Mandatory Requirement</b> | All CIU displays shall default to the English language.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.6<br><b>Mandatory Requirement</b> | <p>A password protected technician screen should be available providing authorized Utility personnel as a minimum to:</p> <ul style="list-style-type: none"> <li>• Enable/disable auto polling of credit data available every 1/2/3/4/ times a day.</li> <li>• Set alarm credit threshold. Below this threshold alarm process occurs.</li> <li>• Display current MAC Address and enter new MAC address.</li> <li>• Enter new password.</li> <li>• Enter emergency credit alarm.</li> <li>• Enter Read Interval Time.</li> </ul> |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3.6.7<br><b>Mandatory Requirement</b> | CIUs shall be mains-powered. The display shall support a power-saving mode to minimise power usage when the Electricity Consumer is not viewing the display. It must be able to communicate via PLC with the meter even in absence of power.                                                                                                                                                                                                                                                                                    |
| Bidder Response                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| 3.6.8<br><b>Mandatory Requirement</b> | CIUs shall incorporate short keys providing immediate action, including as a minimum: read credit balance, read meter energy, read Meter ID, Technician key. |
| Bidder<br>Response                    |                                                                                                                                                              |

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| 3.6.9<br><b>Mandatory Requirement</b>  | The CIU should communicate with the Smart Meter via PLC.                                                                                                                                                                                                                                                                                               |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                        |
| 3.6.10<br><b>Mandatory Requirement</b> | Any connection between a CIU and a Smart Meter shall be secured against logical attacks from neighbouring properties or public areas.                                                                                                                                                                                                                  |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                        |
| 3.6.11<br><b>Mandatory Requirement</b> | CIUs shall remain fully operational if the Electricity Consumer's power has been disconnected as a result of lack of credit to ensure that communication with the Electricity Consumer can be maintained.                                                                                                                                              |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                        |
| 3.6.12<br><b>Mandatory Requirement</b> | The Smart Meter and the associated communications equipment shall remain fully functional if the CIU is damaged or disconnected.                                                                                                                                                                                                                       |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                        |
| 3.6.13<br><b>Mandatory Requirement</b> | The CIU should also include a low credit alarm indication that shall be triggered when credit breaches a minimum limit. The CIU should emit audible beeps 5 times every 30 minutes and the credit value line on the graphical display should flash. Consumers should be capable of cancelling the audible beeps by means of pressing a key on the CIU. |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                        |

### 3.7 Meter Data Management System (MDMS)

This section describes the types of instruction and interaction that are required between the Smart Meter and the MDMS system. The Meter Data Management System (MDMS) is responsible for processing and storing the data collected from the installed base of Smart Meters. It also provides the primary engineering / operational interface to enable centralized management of the Smart Meters and associated equipment.

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| 3.7.1<br><b>Mandatory Requirement</b> | The Bidder shall ensure that the proposed products will support a Smart Meter Solution that will be sufficiently scalable to support at least 1 million Smart Meters and related data. |
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| Bidder<br>Response                        |                                                                                                                                                            |
| 3.7.2<br><b>Mandatory<br/>Requirement</b> | The Bidder shall ensure that the proposed MDMS supports multiple foreign languages.<br>The Bidder is required to list the languages supported by the MDMS. |
| Bidder<br>Response                        |                                                                                                                                                            |

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| 3.7.3<br><b>Mandatory Requirement</b>   | It shall be possible to extract the metering point data to other systems in ASCII, XML, EXCEL file, CSV, etc. format or via APIs.                                                                                                                                                                                                                                                                                                                                         |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.4<br><b>Mandatory Requirement</b>   | The MDMS shall be based on Microsoft .Net, Microsoft Windows Server, and Microsoft SQL 2012.                                                                                                                                                                                                                                                                                                                                                                              |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.5<br><b>Mandatory Requirement</b>   | Fully customizable alert notifications of Smart Asset events shall be configured by the MDMS system users" to send an automatic SMS/ Email to the selected users. The status of each event shall be managed by the MDMS.                                                                                                                                                                                                                                                  |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.6<br><b>Desirable Requirement</b>   | <p>The MDMS shall be built out of three main modules:</p> <ol style="list-style-type: none"> <li>1. Networking - responsible on meter reading, data transmission and manual commands to the infrastructure.</li> <li>2. Management - responsible on evaluation reports, graphics, messages and commands, and archiving.</li> <li>3. Database - includes data on measurement places, substations, tariff definitions, customers and measurement places results.</li> </ol> |
| Enter Compliance Code & Bidder Response |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.7<br><b>Mandatory Requirement</b>   | The MDMS shall support automatic data collection: storing, validating, controlling, reporting and archiving all meter data.                                                                                                                                                                                                                                                                                                                                               |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.8<br><b>Mandatory Requirement</b>   | The MDMS shall support automation of tasks: Creating automatic task lists, and automatic alert notifications.                                                                                                                                                                                                                                                                                                                                                             |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.7.9<br><b>Mandatory Requirement</b>   | <p>The MDMS shall automatically detect any problems in the Smart Meters and DCUs and shall create alarms and send such alarms to predefined recipients. The MDMS shall constantly monitors and detect at a minimum the following problems:</p> <p>Loss of Phase.</p>                                                                                                                                                                                                      |

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|                                        | Over Voltage.<br>Current Unbalanced.<br>Current Severely Unbalanced.<br>Low Power Factor.<br>Loss of Voltage.<br>Loss of Current.<br>Power Overload.<br>Over Current.<br>Under Voltage.<br>Power Reverse.<br>Reverse Power Overload.<br>Low Voltage Battery.                            |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.10<br><b>Mandatory Requirement</b> | The MDMS shall include remote meter management: The system shall allow the operator to manage any parameter within the Smart Meters, including application of complex tariff structure, setting maximum demand, remote disconnections, etc.                                             |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.11<br><b>Mandatory Requirement</b> | The MDMS shall support smart grid management – load management, assist with identification of outages and generate load profiles.                                                                                                                                                       |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.12<br><b>Mandatory Requirement</b> | Internet/intranet based application that allows secure control from any computer with internet access.                                                                                                                                                                                  |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.13<br><b>Mandatory Requirement</b> | Experience in integrating the MDMS with back office systems, including ERP and billing software.<br><br>The Bidder is required to list the ERP and Billing software integrated with the MDMS.                                                                                           |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.14<br><b>Mandatory Requirement</b> | A report module shall enable implementation of various reports and analytics in many formats and graphic displays required by the Utility. It shall enable aggregation of individual meter/customer measurements, groups, and export of this data in different file types for analysis. |
| Bidder Response                        |                                                                                                                                                                                                                                                                                         |
| 3.7.15                                 | Once a DCU or Smart Meter with GPRS or LAN communications is powered on, the MDMS shall use internal software to open a new                                                                                                                                                             |

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| <b>Mandatory Requirement</b>           | communication channel to the server. On first connection, the MDMS shall validate the unit and verify it is allowed to connect to the server and set the initial settings for future communication. From that point, the unit shall stay connected to the server and communication maintained by the MDMS system. Every couple of minutes the DCU or Smart Meter with GPRS or LAN communication sends a “keep alive” signal to the server, to update the MDMS that the unit is still connected. In case the DCU or Smart Meter with GPRS or LAN communication meter has not communicated with the server for several minutes, the MDMS shall detect the loss of connection and close the communication socket. A DCU or Smart Meter with GPRS or LAN communications that has lost connection with the server, or not yet connected to it, shall appear in red colour on the MDMS system tree. |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3.7.16<br><b>Mandatory Requirement</b> | The MDMS also manages system user connections, sending manual or automatic commands, and requests of data and control to the DCUs and Meters. It connects between a user command and a specific DCU or Meter, sending and retrieving the correct data requested. When a DCU successfully connects to the MDMS, and after Meters have been installed in the field, the user “links” the Meters to the DCU. This command is performed by the MDMS system. Once the command is sent, the DCU will begin to communicate with the Meters via PLC.                                                                                                                                                                                                                                                                                                                                                  |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3.7.17<br><b>Mandatory Requirement</b> | Every couple of minutes the DCU shall send a “keep alive” signal to the MDMS, signalling the MDMS that the DCU is still connected. In case the DCU has not communicated with the MDMS for several minutes, the MDMS shall detect the loss of connection and close the communication socket. A DCU which has lost connection with the MDMS, or not yet connected to it, shall appear in red on the MDMS system tree.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3.7.18<br><b>Mandatory Requirement</b> | <p>The MDMS shall have the ability to capture and store the following minimum data set for all metering point:</p> <p>Meter point unique identifier (Supply Point).</p> <p>Customer: number, name, address, ID, type, date of birth, contact details, username and password, pictures, geographical coordinates, power contract.</p> <p>Meter number and meter configuration data.</p> <p>Telecommunication connection details (e.g. telephone number, IP address, GSM/GPRS signal power).</p> <p>Installation date.</p> <p>Transformation ratios.</p> <p>Tariff details.</p> <p>Meter seal data.</p> <p>Metering point status and history.</p> <p>Post payment or prepayment mode.</p>                                                                                                                                                                                                       |

INITIAL.....  
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|  |                                                                                                                                                                                                                         |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | LCD settings.<br>Remarks.<br>Meter manufacturer.<br>Protocol type.<br>Uplink communications type.<br>Phase Type.<br>PLC Address.<br>Meter Type and features.<br>Software Version.<br>Hardware Version.<br>Meter Status. |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3.7.19<br><b>Respond</b>                | The Bidder is required to identify a list of Smart Meters from third party manufacturer's which their MDMS has been integrated with.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3.7.20<br><b>Desirable Requirement</b>  | The Bidder is required to ensure that all software where relevant should execute in a virtual server environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Enter Compliance Code & Bidder Response |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3.7.21<br><b>Mandatory Requirement</b>  | <p>It is a requirement that the MDMS shall support charges and tariffs for each metering site and customer type. As a minimum:</p> <ol style="list-style-type: none"> <li>1. Flat Rate; Time of Use, Step Tariff, Combination of Time of Use and Step tariff.</li> <li>2. Ability to use relevant consumption metrics (active energy, Reactive energy, apparent energy, Max Apparent Power) tariffs.</li> <li>3. Seasonal price changes relating to each rate structure employed in a particular tariff.</li> <li>4. Surcharges.</li> <li>5. Maximum Demand surcharge.</li> <li>6. Penalty charges applied to lowest power factor in a billing period (can be reconciled at the end of the month).</li> <li>7. Fixed Charges or Periodic Charges (i.e. service charge per day/billing period).</li> <li>8. Ability to add multiple consumption charges, 'maximum' charges, 'minimum' charges.</li> </ol> |
| Enter Compliance Code & Bidder Response |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3.7.22<br><b>Mandatory Requirement</b>  | The Smart Meter shall be able to execute remote disconnection / reconnection instructions from the MDMS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Bidder Response                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 3.8 Customer Portal

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|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.8.1<br><b>Mandatory Requirement</b> | The Electricity Consumer shall have access to a website providing information of their consumption and cost data (in user selected intervals and a variety of forms including export) and access to past bills as well as tariff prices. |
| Bidder<br>Response                    |                                                                                                                                                                                                                                          |

|                                       |                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 3.8.2<br><b>Mandatory Requirement</b> | The customer portal should support automatic messages be sent by the Utility to groups of Electricity Consumers.              |
| Bidder<br>Response                    |                                                                                                                               |
| 3.8.3<br><b>Mandatory Requirement</b> | Each Electricity Consumer is issued with a security protected username and password with a high level of security protection. |
| Bidder<br>Response                    |                                                                                                                               |

### 3.9 Vending Management Systems (VMS)

|                                       |                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.9.1<br><b>Mandatory Requirement</b> | STS Token Generator (Engine).                                                                                                                       |
| Bidder<br>Response                    |                                                                                                                                                     |
| 3.9.2<br><b>Mandatory Requirement</b> | Centralized point of sale management system.                                                                                                        |
| Bidder<br>Response                    |                                                                                                                                                     |
| 3.9.3<br><b>Mandatory Requirement</b> | Remote management of merchants dispensing electricity tokens with 24-hour reconciliation. Managing vending retailers with a credit line management. |
| Bidder<br>Response                    |                                                                                                                                                     |
| 3.9.4<br><b>Mandatory Requirement</b> | Management, and maintenance tools - flexible and automated reporting structures.                                                                    |
| Bidder<br>Response                    |                                                                                                                                                     |
| 3.9.5<br><b>Mandatory Requirement</b> | The Bidder is required to have experience in integrating mobile money.<br>Identify projects which the Bidder has integrated mobile money.           |
| Bidder<br>Response                    |                                                                                                                                                     |

### 3.10 Meter Installation App (MIA)

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.10.1<br><b>Mandatory Requirement</b> | Collects information about the existing meter to be replaced (if any) as well as new Smart Meter and transfers this information to the MDMS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3.10.2<br><b>Mandatory Requirement</b> | <p>The MIA system shall:</p> <ol style="list-style-type: none"> <li>1. Scan the Smart Meter bar code.</li> <li>2. Record the Smart Meter readings.</li> <li>3. Capture an image of the existing meter to be replaced and the Smart Meter.</li> <li>4. Capture an image of the current readings of the existing meter to be replaced and the Smart Meter.</li> <li>5. Record the GIS coordinates using the smart phone GPS receivers of the location of the Smart Meters in the field.</li> <li>6. Identify the installer and the time stamp each action; and transfer this information to the MDMS.</li> </ol> |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3.10.3<br><b>Mandatory Requirement</b> | MIA shall provide the data for the MDMS to monitor and report on the time expended for Smart Meter installation in order to analyse and troubleshoot, if necessary, installer efficiency.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Bidder Response                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

### 3.11 Handheld Point of Sale Terminal

|                                        |                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------|
| 3.11.1<br><b>Mandatory Requirement</b> | Hand-held portable, stand-alone STS token point of sale device.                             |
| Bidder Response                        |                                                                                             |
| 3.11.2<br><b>Mandatory Requirement</b> | Communications to the VMS via integrated 3G/GPRS modem.                                     |
| Bidder Response                        |                                                                                             |
| 3.11.3<br><b>Mandatory Requirement</b> | External power supply, and internal rechargeable battery. Minimum of 1200mAh Ni-MH battery. |

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| Bidder Response                        |                                                                                                                                                                                 |
| 3.11.4<br><b>Mandatory Requirement</b> | Thermal printer for printing the STS token number. Platen removal mechanism enabling easy loading of paper and maintenance. Printing head life minimum traveling distance 50KM. |
| Bidder Response                        |                                                                                                                                                                                 |
| 3.11.5<br><b>Mandatory Requirement</b> | LCD display minimum size 128mm x 64mm.                                                                                                                                          |
| Bidder Response                        |                                                                                                                                                                                 |
| 3.11.6<br><b>Mandatory Requirement</b> | 24 keys, easy menu operation interface.                                                                                                                                         |
| Bidder Response                        |                                                                                                                                                                                 |
| 3.11.7<br><b>Mandatory Requirement</b> | Remotely updatable tariffs from the MDMS.                                                                                                                                       |
| Bidder Response                        |                                                                                                                                                                                 |
| 3.11.8<br><b>Mandatory Requirement</b> | Bidders shall provide technical specifications for each type of Handheld Point of Sale Terminal proposed within their solution.                                                 |
| Bidder Response                        |                                                                                                                                                                                 |

### 3.12 Hand Held Unit (HHU)

|                                        |                                                                                                                                                                                                                                                |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.12.1<br><b>Mandatory Requirement</b> | The HHU is an infrared terminal which allows communication with DCU and Smart Meter through the IR port. The HHU can set, read and activate any function in the DCU and Smart Meter, with all functionality available for local on-site users. |
| Bidder Response                        |                                                                                                                                                                                                                                                |
| 3.12.2<br><b>Mandatory Requirement</b> | Full password and username protection avoids access to unauthorized personnel.                                                                                                                                                                 |
| Bidder Response                        |                                                                                                                                                                                                                                                |

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|                                        |                                                                                                                                                            |
| 3.12.3<br><b>Mandatory Requirement</b> | The HHU should feature a wide-angle infrared enabling the user to communicate at a distance, without standing directly in front of the Smart Meter or DCU. |
| Bidder<br>Response                     |                                                                                                                                                            |
| 3.12.4<br><b>Mandatory Requirement</b> | The HHU should setup the DCU communication parameters.                                                                                                     |
| Bidder<br>Response                     |                                                                                                                                                            |
| 3.12.5<br><b>Mandatory Requirement</b> | LCD with minimum of 160 * 160 pixels (with backlight).                                                                                                     |
| Bidder<br>Response                     |                                                                                                                                                            |



|                                         |                                                                                                               |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 3.12.6<br><b>Mandatory Requirement</b>  | Keyboard with minimum of 26 rubber keys including numbers, letters, symbols and arithmetic operations.        |
| Bidder Response                         |                                                                                                               |
| 3.12.7<br><b>Mandatory Requirement</b>  | Communications: serial port, high-speed infrared port, standard infrared communication port and optical port. |
| Bidder Response                         |                                                                                                               |
| 3.12.8<br><b>Mandatory Requirement</b>  | Rechargeable batteries, with charging cradle.                                                                 |
| Bidder Response                         |                                                                                                               |
| 3.12.9<br><b>Mandatory Requirement</b>  | The operating environment is based on: MS C, BORLAND C, TURBO PASCAL, IBM Assembler, HTBASE.                  |
| Bidder Response                         |                                                                                                               |
| 3.12.10<br><b>Mandatory Requirement</b> | Bidders shall provide technical specifications for each type of HHU proposed within their solution.           |
| Bidder Response                         |                                                                                                               |

**TAPES:**

| NO. | DESCRIPTION                                             |
|-----|---------------------------------------------------------|
| 1.  | TAPE: BARRIER 75MM X 500M                               |
| 2.  | TAPE: DANGER YELLOW CABLE MARKER                        |
| 3.  | TAPE: WILEC COTTON 19MM X 50M                           |
| 4.  | SCOTCH 3M SELFBONDING ELECTRICAL TAPE 19MMX0.76MMX9.15M |
| 5   | TAPE: PRATLEY PVC 0.2MM X 19MM X 20M                    |

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## Glands and Shrouds

|            |                          |
|------------|--------------------------|
| <b>6.</b>  | GLANDS: NO.1 CCG BW1     |
| <b>7.</b>  | SHROUDS: NO.1 CCG BW1    |
| <b>8.</b>  | GLANDS: NO.2 COMPRESSION |
| <b>9.</b>  | SHROUDS: NO.2 CCG BW2    |
| <b>10.</b> | GLANDS: NO.2 CCG BW2     |
| <b>11.</b> | GLANDS: NO.3 CCG BW3     |
| <b>12.</b> | SHROUDS: NO.3 CCG BW3    |
| <b>13.</b> | SHROUDS: NO.4 CCG BW4    |
| <b>14.</b> | GLANDS: NO.4 CCG BW4     |
| <b>15.</b> | GLANDS: NO.5 CCG BW5     |
| <b>16.</b> | SHROUDS: NO.5 CCG BW5    |
| <b>17.</b> | SHROUDS: NO.6 CCG BW6    |
| <b>18.</b> | GLANDS: NO.6 CCG BW6     |

## LUGS

|            |                                           |
|------------|-------------------------------------------|
| <b>19.</b> | BAND-IT STRAPPING C133SA 9.53MMX0.5MMX30M |
| <b>20.</b> | BAND-IT BUCKLES C953SA 9.53MM             |

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|            |                                                    |
|------------|----------------------------------------------------|
| <b>21.</b> | LUGS: 2,5 X 5 STONE STAMCOR CU                     |
| <b>22.</b> | LUGS: 16 X 10 STONE STAMCORE CU                    |
| <b>23.</b> | LUGS: 16 X 12 STONE STAMCOR CU                     |
| <b>24.</b> | STONE STAMCOR 25X10 CU LUG                         |
| <b>25.</b> | LUGS: 35 X 8 STONE STAMCOR CRIMPING CU             |
| <b>26.</b> | LUGS: 35 X 10 STONE STAMCORE CU                    |
| <b>27.</b> | LUGS: 35 X 12 STONE STAMCOR CRIMPING CU            |
| <b>28.</b> | LUGS: 50 X 12 STONE STAMCOR CRIMP CU               |
| <b>29.</b> | LUGS: 70 X 10 CRIMPING STONE STAMCOR CU            |
| <b>30.</b> | STONE STAMCOR CU.LUG 70x12                         |
| <b>31.</b> | LUGS: SOLDER 150A STONE STAMCOR                    |
| <b>32.</b> | LUGS: 200A SOLDER STONE STAMCOR CU                 |
| <b>33.</b> | LUGS: 300A SOLDER CU STONE STAMCOR                 |
| <b>34.</b> | LUGS: 400A SOLDER CU STONE STAMCOR                 |
| <b>35.</b> | LUGS: 500A SOLDER STONE STAMCOR                    |
| <b>36.</b> | LUGS: 25MM ALUMINIUM H/ROUND                       |
| <b>37.</b> | LUGS: 35 X 12 CRIMPING STONE STAMCOR ALUMINIUM     |
| <b>38.</b> | LUGS: 70 X 12 CRIMPING STONE STAMCOR ALUMINIUM     |
| <b>39.</b> | LUGS: 95 X 12 CRIMPING STONE STAMCOR ALUMINIUM     |
| <b>40.</b> | LUGS: 185 X 12MM X 4C CRIMP ALUMINIUM              |
| <b>41.</b> | LUGS: 120 X 12 STONE STAMCOR ALUMINIUM (TRAINGULAR |
| <b>42.</b> | 25/95-13MM HOLE TOURQUE SHEER OFF LUGS             |
| <b>43.</b> | 95/240-13MM HOLE TOURQUE SHEER OFF LUGS            |
| <b>44.</b> | 240/400-13MM HOLE TOURQUE SHEER OFF LUGS           |

#### **Ferrules:**

|            |                                            |
|------------|--------------------------------------------|
| <b>45.</b> | FERRULES: 2,5MM STONE STAMCOR CU           |
| <b>46.</b> | FERRULES: 16MM CU STONE STAMCORE           |
| <b>47.</b> | FERRULES: 25MM CRIMPING CU                 |
| <b>48.</b> | FERRULES: 35MM CRIMPING CU STONE STAMCOR   |
| <b>49.</b> | FERRULES: 70MM CRIMPING CU                 |
| <b>50.</b> | FERRULES: 70MM WEAK BACK STONE STAMCORE CU |
| <b>51.</b> | FERRULES: 185MM WEAK BACK                  |

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| <b>52.</b> | FERRULES: 150MM WEAK BACK STONE STAMCOR          |
| <b>53.</b> | FERRULES: 300MM WEAK BACK STONE STAMCOR          |
| <b>54.</b> | FERRULES: 35MM CRIMPING STONE STAMCOR ALUMINIUM  |
| <b>55.</b> | FERRULES: 70MM CRIMPING STONE STAMCOR ALUMINIUM  |
| <b>56.</b> | FERRULES: 95MM STONE STAMCORE ALUMINIUM ALF-F-95 |
| <b>57.</b> | FERRULES: 185MM 4 CORE ALUM                      |
| <b>58.</b> | 25/95 TOURQUE SHEER FERRULES                     |
| <b>59.</b> | 95/240 TOURQUE SHEER FERRULES                    |
| <b>60.</b> | 240/400 TOURQUE SHEER FERRULES                   |

### Transformer Breathers and Other

|            |                                                                                       |
|------------|---------------------------------------------------------------------------------------|
| <b>61.</b> | PACKING: 4,5MM 1M X 1M CORK FOR TRANSFORMER                                           |
| <b>62.</b> | PACKING: 3MM X 1M X 1M CORK FOR TRANSFORMER                                           |
| <b>63.</b> | BREATHERS: TRANSFORMERS TX1 15MM C/W SILICA GEL                                       |
| <b>64.</b> | DWARF PILLAR UNIT 300/400AMP                                                          |
| <b>65.</b> | EARTH SPIKES: M16 X 1,5M CU C/W CLAMPS                                                |
| <b>66.</b> | PLUG TOP: 15AMP THREE PIN                                                             |
| <b>67.</b> | EARTH LEAKAGE UNIT: 63A CBI HYMAG QA17A WITH O/L PROTECTION SINGLE PHASE PLUG NEUTRAL |
| <b>68.</b> | SWITCH: FLUSH 4X4                                                                     |
| <b>69.</b> | ADAPTOR PLATES: FOR MCB                                                               |
| <b>70.</b> | BLADES: HACKSAW ECLIPSE 18TPI                                                         |
| <b>71.</b> | STANLY BLADES                                                                         |
| <b>72.</b> | DUSPOL ANALOG VOLTAGE TESTER 230V                                                     |
| <b>73.</b> | BLOCK CONNECTOR STRIP 15A HELLERMANN TYTON                                            |
| <b>74.</b> | CONNECTORS: 30A STRIP BLOCK HELLERMAN TYTON                                           |
| <b>75.</b> | BAND IT STRAPPING TOOL                                                                |
| <b>76.</b> | CLIP CROSBY 8MM                                                                       |
| <b>77.</b> | CROSBY CLAMPS: 6MM                                                                    |
| <b>78.</b> | D SHACKLES : 60x30                                                                    |
| <b>79.</b> | ROPE : 12MM RED FOR STEP LEADER                                                       |
| <b>80.</b> | RIGGER : LEVER HOIST 1,5 TON+750 KG                                                   |

INITIAL.....  
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**FUSE:**

|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| <b>81.</b>  | FUSES: J + P CUT OUT UNIT + HOLDER 11 KV COMPLETE REF SJC-5       |
| <b>82.</b>  | FUSES: 15A HT FUSELINK HT TYPE K                                  |
| <b>83.</b>  | FUSES: 20A HT FUSELINK TYPE K                                     |
| <b>84.</b>  | FUSES: 30A HT FUSELINK TYPE K                                     |
| <b>85.</b>  | FUSES: 40A HT FUSELINK TYPE K                                     |
| <b>86.</b>  | FUSES: 50A HT FUSELINK TYPE K                                     |
| <b>87.</b>  | FUSES: 65A HT FUSELINK TYPE K                                     |
| <b>88.</b>  | FUSES: 75A HT F2                                                  |
| <b>89.</b>  | FUSES: 15A HT FUSELINK HT with tails                              |
| <b>90.</b>  | FUSES: 20A HT FUSELINK with tails                                 |
| <b>91.</b>  | FUSES: 30A HT FUSELINK with tails                                 |
| <b>92.</b>  | FUSES: 40A HT FUSELINK with tails                                 |
| <b>93.</b>  | FUSES: 50A HT FUSELINK with tails                                 |
| <b>94.</b>  | FUSES: 65A HT FUSELINK with tails                                 |
| <b>95.</b>  | FUSES: BUSSMANN STRIKER PIN HT TYPE 120EFMA31,5                   |
| <b>96.</b>  | FUSES: 80A HT FUSELINK TYPE K                                     |
| <b>97.</b>  | FUSES: 50A BUSSMANN STRIKER PIN HT TYPE 12SDLNJ50                 |
| <b>98.</b>  | CONNECTORS: 30A STRIP BLOCK HELLERMAN TYTON                       |
| <b>99.</b>  | FUSES: 63A BUSSMANN BAO63                                         |
| <b>100.</b> | FUSES: 80A BUSSMANN REF OSD80                                     |
| <b>101.</b> | FUSES: 63A BUSSMANN STRIKER PIN TYPE 120EFMA63                    |
| <b>102.</b> | FUSES: 100A BUSSMANN OSD100                                       |
| <b>103.</b> | FUSES: 5A TYPE K FUSE LINK (HT FUSE)                              |
| <b>104.</b> | FUSES: 10A HT FUSELINK TYPE K                                     |
| <b>105.</b> | FUSES: 630A BUSSMANN REF:630SJ31-6 (CLAW TYPE)                    |
| <b>106.</b> | FUSES: 200A BUSSMAN CLAW TYPE                                     |
| <b>107.</b> | FUSES: 315A BUSSMANN REF 315MJ30-7 (CLAW TYPE)                    |
| <b>108.</b> | FUSES: 400A BUSSMANN TYPE J REF 400PJ30-7 FOR FEEDER PILLER       |
| <b>109.</b> | FUSES: BUSSMANN 200NHG02B 200A                                    |
| <b>110.</b> | FUSES: 160A BUSSMANN KNIFE LINK 160NHG00B AC500V VDEO636 IEC60269 |
| <b>111.</b> | FUSES: 6A BUSSMANN C10G6 SIZE 10,3 X 38 (BARREL TYPE)             |
| <b>112.</b> | FUSES: 10A BUSSMANN C10G109G SIZE 10,3 X 38MM (BARREL TYPE)       |

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|             |                                                            |
|-------------|------------------------------------------------------------|
| <b>113.</b> | FUSES: 30A BUSSMANN CARTRIDGE 30KR85                       |
| <b>114.</b> | FUSES: 60A BUSSMANN CARTRIDGE 60KR85                       |
| <b>115.</b> | FUSES: 80A BUSSMANN BARREL TYPE 80KR85                     |
| <b>116.</b> | FUSES: 100A BUSSMANN 100MJ25-6 (BARREL TYPE)               |
| <b>117.</b> | FUSES: 200A BUSSMANN 200MJ25-6 (BARREL TYPE)               |
| <b>118.</b> | FUSES: 5A AERIAL (FLYING)                                  |
| <b>119.</b> | FUSES: 16A BUSSMANN REF AA016                              |
| <b>120.</b> | FUSES: 32A BUSSMANN REF AAO32                              |
| <b>121.</b> | FUSES: 80A BUSSMANN CD80                                   |
| <b>122.</b> | FUSES: 63A BUSSMANN REF63MJ30-8 (CLAW TYPE)                |
| <b>123.</b> | FUSES: 100A BUSSMANN REF 100MJ30-7 (CLAW TYPE)             |
| <b>124.</b> | FUSE CARRIER ASSEMBLY FOR GEC SWITCH FUSE UNIT             |
| <b>125.</b> | FUSE CARRIERS: 500AMP TYPE 30239                           |
| <b>126.</b> | FUSE CARRIERS: 80A MOLEX                                   |
| <b>127.</b> | FUSE CARRIERS: 63A RS63 GEC ALSTOM                         |
| <b>128.</b> | FUSE CARRIERS: SIZE NH00 IEC:60947-3 ADPM-S1/160A JONNISON |
| <b>129.</b> | FUSE CARRIERS: 200A BUSSMANN CJ235                         |
| <b>130.</b> | FUSE CARRIERS: BUSSMANN CM100F                             |
| <b>131.</b> | FUSE CARRIERS: CHM1D 32A BUSSMANN                          |
| <b>132.</b> | FUSES: 630A BUSSMANN REF:630SJ31-6 (CLAW TYPE)             |

#### **Circuit breakers:**

|             |                                                                         |
|-------------|-------------------------------------------------------------------------|
| <b>133.</b> | 125A CIRCUIT BREAKERS (CBI) J25S CURVE JSO 3Q WITH ECLOSURE             |
| <b>134.</b> | 150 AMP CIRCUIT BREBREAKERS (CBI) CURVE WITH ENCLOSURE                  |
| <b>135.</b> | CIRCUIT BREAKERS: 63A MCB S/P C/W SHROUDS & MOUNTING CLIPS              |
| <b>136.</b> | CIRCUIT BREAKERS: 5A 1 PHASE ORANGE TOGGLE CBI 5KA C/W SHROUDS + CLIPS  |
| <b>137.</b> | CIRCUIT BREAKERS: 10A 1 PHASE ORANGE TOGGLE CBI 5KA C/W SHROUDS + CLIPS |
| <b>138.</b> | CBI 15A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING                         |
| <b>139.</b> | CBI 20A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING                    |

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|             |                                                       |
|-------------|-------------------------------------------------------|
| <b>140.</b> | CBI 35A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>141.</b> | CBI 45A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>142.</b> | CBI 60A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING  |
| <b>143.</b> | CBI 80A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>144.</b> | CBI 100A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING      |
| <b>145.</b> | CBI 5A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING   |
| <b>146.</b> | CBI 10A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>147.</b> | CBI 15A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>148.</b> | CBI 20A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING  |
| <b>149.</b> | CBI 35A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>150.</b> | CBI 45A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>151.</b> | CBI 60A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING  |
| <b>152.</b> | CBI 80A 5KA ORANGE TOGGLE C/W SHROUD & MOUNTING       |
| <b>153.</b> | CBI 100A 5KA ORANGE TOGGLE MCB C/W SHROUDS & MOUNTING |

## Other Electrical material

|      |                                                   |
|------|---------------------------------------------------|
| 154. | STAY RODS: M20 X 2,45M + BASE PLATE 450 X 450     |
| 155. | STAY RODS: M16 X 2,45 + BASE PLATES               |
| 156. | HYCON WEATHERPROOF PLASTIC COMPOUND 4X125G BLOCKS |
| 157. | FLUX: NASCO ALUMINIUM 500GR                       |
| 158. | FLUX: NASCO COPPER 500GR                          |
| 159. | GREASE: ALUMINIUM X1 500GR                        |
| 160. | SOLDER STICKS: ALUMINIUM ALC.P                    |
| 161. | AEROSOL: CRC2-26 RUST REMOVER                     |
| 162. | TIN IGNOTS (SMALL)                                |
| 163. | LEAD INGOT (SMALL)                                |
| 164. | WIRE: 2,5MM PVC (COLOUR)                          |
| 165. | WIRE: 16MM GP PVC HOUSEWIRE                       |
| 166. | WIRE: 25MM GP PVC HOUSEWIRE (COLOURS)             |
| 167. | WIRE: 35MM PVC GP BLACK                           |
| 168. | WIRE: NO 8 ALUMINIUM 50KG ROLL                    |
| 169. | COMPOUND: 12,7 KG 57036 PRODUCT CODE 15426-27     |
| 170. | COMPOUND: 20L 57018 HYC 382 A                     |
| 171. | COMPOUND: 20L 57030 BASTING                       |
| 172. | SILICA GEL: BLUE CRYSTALS 25KG BAGS               |

## Joining kits:

|      |                                                            |
|------|------------------------------------------------------------|
| 173. | SCOTCHCAST 82-A2 SPLICING KIT 1.1KV 6-16MM 2/4 C PVC CABLE |
| 174. | SCOTCHCAST 82-A3                                           |
| 175. | JOINT KITS: 70-120MM 4 CORE LV HEATSHRINK                  |

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|      |                                                                            |
|------|----------------------------------------------------------------------------|
| 176. | JOINT KITS: 120-185MM 4 CORE LV HEATSHRINK                                 |
| 177. | BOXES: 1001-D CI JOINT                                                     |
| 178. | BOXES: 1002-D CI JOINT 185M2                                               |
| 179. | BOXES: 1003-D CI JOINT 300M2                                               |
| 180. | TERMINATION KITS: 120-240MM MV 3 CORE INDOOR C/W 6 50MM TAILS + EARTH      |
| 181. | TERMINATION KITS: 16/35/12kv MV 3 CORE INDOOR C/W 6 50MM TAILS + EARTH     |
| 182. | TERMINATION KITS: 120-240MM MV PILC 3 CORE OUTDOOR C/W 650MM TAILS + EARTH |
| 183. | TERMINATION KITS: 240-300MM MV PILC 3 CORE INDOOR C/W 650MM TAILS + EARTH  |
| 184. | BOOTS: 120 - 240MM 4 CORE OUTDOOR                                          |
| 185. | BOOTS: 50 - 95MM 4 CORE OUTDOOR                                            |
| 186. | CABLE END CAP: 70-35MM HEAT SHRINK                                         |
| 187. | DEAD ENDS: 6/1/083 OR 6/1/2,11 ADE 248 SQUIRREL                            |
| 188. | DEAD ENDS: 6/1/144 ADE 426/432                                             |
| 189. | LINE SPLICERS: 6/1/083 ALS 246/249                                         |
| 190. | LINE SPLICERS: MINK ALS 426/432 6/1/144 6/1/3.66                           |
| 191. | DEAD ENDS: 6/1/186 HARE ADE 545/567                                        |
| 192. | LINE SPLICERS: 6/1/186 HARE ADE 549/558                                    |
| 193. | LINE SPLICERS: 6/1/161 OR 6/1/4,09                                         |
| 194. | TERMINATION KITS: 50-95MM MV PILC 3 CORE INDOOR C/W 650MM TAILS + EARTH    |
| 195. | MV TERMINATIONS 240X300 MM PILC 3 CORE OUTDOOR 650 TAI                     |
| 196. | 50/95 HEAT SHRINK 3 CORE 12KV JOINT KITS                                   |
| 197. | 95/240 HEAT SHRINK 3 CORE 12KV JOINT KITS                                  |
| 198. | 16/35mm 3 core 11kv joints with torque shear ferrules                      |
| 199. | 240/300 HEAT SHRINK 3 CORE 12KV JOINT KITS                                 |

## Connecting Kits and other

|      |                                                           |
|------|-----------------------------------------------------------|
| 200. | IPC CONNECTOR MAIN 16-95 TAP1,5-10                        |
| 201. | 1PC CONNECTOR MAIN 25-95 TAP 25-95 TYPE:PC3WP2F           |
| 202. | 1PC CONNECTOR MAIN 25-95 TAP 25-95 TYPE:PC3WP1F           |
| 203. | LINE TAPS: 16MM MO.6                                      |
| 204. | LINE TAPS: 10MM MO8                                       |
| 205. | LINE TAPS: 50MM MO.0                                      |
| 206. | LINE TAPS: 35MM MO.2                                      |
| 207. | LINE TAPS: 70MM MO.3/0                                    |
| 208. | P.G. CLAMPS: 10MM BLUE 2 BOLT ALUM                        |
| 209. | P.G. CLAMPS: 12MM GOLD 2 BOLT BI METAL CODE 1556          |
| 210. | PIGTAIL SCREWS: 150MM P.A.10                              |
| 211. | PIGTAIL BOLTS: M16 X 380 ANCHOR BOLT ASSEMBLY GALV INISED |
| 212. | STRAINING CLAMPS: AIRDAC LV H/S DEAD END 4-16MM           |
| 213. | STRAINING CLAMPS: ABC PEBM PAB 1500LV                     |
| 214. | STRAINING CLAMP BRACKET: ABC LV TYPE:CS-10                |
| 215. | SUSPENSION CLAMP:ABC C/W BRACKET TYPE: ES 54-14 LV        |
| 216. | SUSPENSION ASSEMBLY NEUTRAL 25MM-95MM P.A.54              |
| 217. | INSULATORS: 22KV POST TOP PIN                             |
| 218. | INSULATORS: STAY ROD (LRG) MV                             |
| 219. | INSULATORS: STAY ROD (SML) LV                             |
| 220. | LIGHTNING ARRESTORS: J12KV JOSLYN                         |
| 221. | INSULATORS: 22KV LONG ROD                                 |

## Streetlights and other

|      |                                                           |
|------|-----------------------------------------------------------|
| 222. | LAMPS: 250W SON T E40 HPS TUBULAR PHILLIPS/OSRAM (SODIUM) |
|------|-----------------------------------------------------------|

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|      |                                                                  |
|------|------------------------------------------------------------------|
| 223. | LAMPS: 160W ML E27 PHILLIPS/OSRAM 220/230V                       |
| 224. | LAMPS: 40W SLIMLINE 4FT PHILLIPS/OSRAM                           |
| 225. | LAMPS: 100W & 60W BC & ES PHILLIPS/OSRAM                         |
| 226. | LAMPS: 300W E40                                                  |
| 227. | LAMPS: 70W HPS E27 WITH BUILT-IN IGNITOR                         |
| 228. | LAMPS: 150W SON T PHILLIPS/OSRAM                                 |
| 229. | LAMPS: B/C & E/S ENERGY SAVER LAMPS                              |
| 230. | LAMPS:40W SLIMLINE 5FT PHILLIPS/OSRAM                            |
| 231. | PHOTOCELL: ROYCE THOMSON MONOSTAR NEMA TYPE                      |
| 232. | DAY/NIGHT SWITCH: BASE NEMA TYPE                                 |
| 233. | CONTACTORS: AC 230V 65 AMP                                       |
| 234. | BALLASTS: 70W SON                                                |
| 235. | BALLASTS: 125W M/V CHUNKY B/A/G ELECTRONICS                      |
| 236. | INSULATORS: SHACKLE                                              |
| 237. | POLE BRACKET OUTREACH: 150 X 42 C/W BACKSTRAP, BOL               |
| 238. | DAYLIGHT SWITCH: BMK/MS/2000 RECESSED MICROSTAR MIDBLOCK BEKAWAY |
| 239. | MIDBLOCK LAMPS: 100W E40 SUPER 4Y BEKA                           |
| 240. | 125 W M/V LAMPS (PHILIPS / OSRAM) E27                            |
| 241. | 250 W M/V LAMPS (PHILIPS / OSRAM) HPL-N E40                      |
| 242. | 250 W E40 LAMPS (PHILIPS / OSRAM)SON-E                           |
| 243. | LAMPS: 2D PL-Q PRO 16W 2 PIN LOHUIS                              |
| 244. | B/A/G ELECTRONICS CHUNKY BALLAST 125W M/V                        |
| 245. | LAMP HOLDER PORCELAIN ES                                         |
| 246. | Starters: FLOURESCENT TUBES                                      |
| 247. | FITTINGS: 125W M/V PATHFINDER INTERGRATED PHOTOCELL              |
| 248. | FITTINGS: 400W HPS MBIT + LAMP 400W HPS E40 HIGHMAST             |
| 249. | FITTINGS: 125W M/V STREETLIGHT BEKALANE S/E                      |
| 250. | 150/5 C.T'S CLASS 0,5 BURDEN 8VA,INTERNAL DIAMER 60MM            |
| 251. | 200/5 C.T'S CLASS 0,5 BURDEN 8,VA,INTERNAL DIAMER 60MM           |
| 252. | 300/5 C.T'S CLASS 0.5 BURDEN 8VA,INTERNAL DIAMETER 60MM          |
| 253. | 400/5 C.T'S CLASS 0.5 BURDEN 8VA,INTERNAL DIAMER 60MM            |
| 254. | 500/5 C.T'S CLASS 0.5 BURDEN 8VA,INTERNAL DIAMER 60MM            |
| 255. | 600/5 C.T'S CLASS 0.5 BURDEN 8VA,INTERNAL DIAMER 60MM            |
| 256. | K2902 TWO DOOR FIBRE GLASS KIOSK WITH FOUR LV PARNELS            |
| 257. | POLES: 7M WOOD - TREATED(DIA 120-140MM)                          |
| 258. | POLES: 9M WOOD (DIA 140 X 160) -TREATED                          |
| 259. | POLES: 10M WOOD – TREATED                                        |
| 260. | POLES: 11M WOOD – TREATED                                        |
| 261. | POLES: 12M WOOD (DIA 140-160MM) - TREATED                        |

**NB: Please note that this bid is not limited to the above list. The Municipality may order any electrical material except for those in the Supply and Delivery of heavy Electrical Material.**

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# **ALFRED DUMA LOCAL MUNICIPALITY**

## **DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVERY OF  
ELECTRICAL MATERIAL FOR A PERIOD OF THREE  
(3) YEARS**

**FORMS TO BE COMPLETED BY THE BIDDER**

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**ALFRED DUMA LOCAL MUNICIPALITY**

**FORM OF BID**

**FORM OF ACCEPTANCE**

**DEPARTMENT:** \_\_\_\_\_

**FORM OF BID:** \_\_\_\_\_

**To:           Municipal Manager**

**P O Box 29**

**LADYSMITH**

**3370**

(a)I/we hereby bid to supply and deliver the goods as and when ordered by the Head of Department at prices quoted and/or to render all of any of the services described in the attached documents to the ALFRED DUMA LOCAL MUNICIPALITY on the terms and conditions and in accordance with the specifications stipulated in the bid documents (and which shall be taken as part of, and incorporated into, this bid) at prices and on the terms regarding time for delivery and/or execution inserted therein.

(b)I/we agree that: the offer herein shall remain binding upon me/us and open for acceptance by the ALFRED DUMA LOCAL MUNICIPALITY during the validity period of 120 days indicated and calculated from the closing time of bid;

a.this bid and its acceptance shall be subject to the terms and conditions contained in the Preference Points Claim Form;

b.if I/we withdraw my/our bid within the period for which I/we have agreed that the bid shall remain open for acceptance, or fail to fulfill the contract when called upon to do so, the Council may, without prejudice to its other rights, agree to the withdrawal of my/our bid or cancel the contract that may have been entered into between me/us and the Council and I/we will then pay to the Council any additional expense incurred by the Council having either to accept any less favorable bid or, if fresh bids have to be invited, the additional expenditure incurred by the invitation of fresh bids and by the subsequent acceptance of any less favorable bid. The Council shall also have the right to recover such additional expenditure by set-off against monies which may be due to become due to me/us under this or any other bid or contract and pending the ascertainment of the amount of such additional expenditure to retain such monies,

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guarantee or deposit as security for any loss the Council may sustain by reasons of my/our default;

- c.If my/our bid is accepted, the acceptance may be communicated to me/us by letter or order by ordinary post or registered post and that the SA Post Office Ltd shall be regarded as my/our agent, and delivery of such acceptance to SA Post Office Ltd shall be treated as delivery to me/us;
- d.I/we understand that the Council is not bound to accept the lowest or any bid and also reserves the right to divide the contract between one or more bids;
- e.this bid, together with Council's written acceptance thereof, shall constitute a binding contract between us;
- f.that this contract or part thereof shall not be ceded;
- g.the law of the Republic of South Africa shall govern the contract created by the acceptance of my/our bid and that I/we choose *Domicilium citandi et executandi* in the Republic at (full address of this place):

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- (c)I/we furthermore confirm that I/we have satisfied myself/ourselves as to the correctness and validity of my/our bid, that the price(s) and rate(s) quoted cover all the work/item(s) specified in the bid documents and that the price(s) and rate(s) cover all my/our obligations under a resulting contract and that I/we accept that any mistakes regarding price(s) and calculations will be at my/our risk.
- (d)I/we hereby accept full responsibility for the proper execution and fulfillment of all obligations and conditions devolving on me/us under the agreement as the Principal(s) liable for the due fulfillment of this contract.
- (e)I/we agree that any action arising from this contract may in all respects be instituted against me/us and I/we hereby undertake to satisfy fully any sentence of judgment which may be pronounced against me/us as a result of such action.

Are you duly authorized to sign the bid? \*

Has the Declaration of Interest been duly completed and included with the other bid forms?\*

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

CAPACITY AND PARTICULARS OF THE AUTHORITY UNDER WHICH THIS BID IS SIGNED:

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NAME OF BIDDER: \_\_\_\_\_

POSTAL ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

TELEPHONE NUMBERS: \_\_\_\_\_

FACSIMILE NUMBERS: \_\_\_\_\_

BID NUMBER: \_\_\_\_\_

NAME OF CONTACT PERSON: \_\_\_\_\_

Refer to the under-mentioned important Conditions:

#### **IMPORTANT CONDITIONS**

- a). Failure on the part of the bidder to sign this bid form and thus to acknowledge and accept the conditions in writing or to complete the attached forms, questionnaire and specifications in all respects, may invalidate the bid.
- b). Bids should be submitted on the official forms and should not be qualified by the bidders own conditions of bid. Failure to comply with these requirements or to renounce specifically the bidders own conditions of bid, when called upon to do so, may invalidate the bid.
- c). If any of the conditions of this bid form are in conflict with any special conditions, stipulations or provisions incorporated in the bid, such special conditions, stipulations or provisions shall apply.

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**DEPARTMENT BUDGET AND TREASURY**  
**TAX CLEARANCE CERTIFICATE REQUIREMENTS**

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

- a. In order to meet this requirement bidders are required to complete in full the attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
- b. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
- c. The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
- d. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.
- e. Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website [www.sars.gov.za](http://www.sars.gov.za).
- f. Applications for the Tax Clearance Certificates 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](http://www.sars.gov.za).

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**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, hareholder<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**

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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.

.....  
.....

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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 |
|-----------|-----------------|-----------------------|
|           |                 |                       |
|           |                 |                       |
|           |                 |                       |

.....

.....

Signature

Date

.....

Capacity

# **ALFRED DUMA LOCAL MUNICIPALITY**

## **DEPARTMENT OF BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE  
PROVIDERS FOR THE SUPPLY AND DELIVER PAINT  
AND OTHER PAINTING EQUIPEMENT FOR A  
PERIOD OF THREE (3) YEARS**

## **PROCUREMENT DOCUMENTS**

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

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

**NB: BEFORE COMPLETING THIS FORM, TENDERERS 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 invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- a) The applicable preference point system for this tender is the 80/20 preference point system.
- b) 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.2 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

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

1.3 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

|                                                  | POINTS     |
|--------------------------------------------------|------------|
| PRICE                                            | 80         |
| SPECIFIC GOALS                                   | 20         |
| <b>Total points for Price and SPECIFIC GOALS</b> | <b>100</b> |

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- 1.4 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.5 The organ of state reserves the right to require of a tenderer, either before a tender 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) **“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;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“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; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

## 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**

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

Where

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

### 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**

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

Where

$P_s$  = Points scored for price of tender under consideration  
 $P_t$  = Price of tender 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.**

***(Note to organs of state: Where either the 90/10 or 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<br>(80/20 system)<br>(To be completed by the organ of state) | Number of points claimed (80/20 system)<br>(To be completed by the tenderer) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| RDP Goals 15/20- the bidding company to prove that it is located in the Alfred Duma Local municipal area. Bidders are required to attach proof of address to earn these points | 15                                                                                      |                                                                              |
| Race (HDI) 5/20- Ownership verification will be conducted in line with the Central Supplier Database(CSD)                                                                      | 5                                                                                       |                                                                              |
|                                                                                                                                                                                | 20                                                                                      |                                                                              |

#### DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

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4.4. Company registration number: .....

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state 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 organ of state may, in addition to any other remedy it may have –
  - (a) disqualify the person from the tendering 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 tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ

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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, if deemed necessary.

**DECLARATION OF BIDDER’S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

This Municipal Bidding Document must form part of all bids invited.

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.

The bid of any bidder may be rejected if that bidder, or any of its directors have:

- b.abused the municipality’s / municipal entity’s supply chain management system or committed any improper conduct in relation to such system;
- c.been convicted for fraud or corruption during the past five years;
- d.willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
- e.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).

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

| Item | Question | Yes | No |
|------|----------|-----|----|
|------|----------|-----|----|

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|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                            |                                           |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------|
| 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> | <p>Yes</p> <p><input type="checkbox"/></p> | <p>No</p> <p><input type="checkbox"/></p> |
| 4.1.<br>1 | If so, furnish particulars:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |                                           |
| 4.2       | <p>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)?</p> <p><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></p>                                                                                                                                                                                                                                                                            | <p>Yes</p> <p><input type="checkbox"/></p> | <p>No</p> <p><input type="checkbox"/></p> |
| 4.2.<br>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<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| 4.3.<br>1   | If so, furnish particulars:                                                                                                                                                                                                            |                                 |                                |
| <b>Item</b> | <b>Question</b>                                                                                                                                                                                                                        | <b>Yes</b>                      | <b>No</b>                      |
| 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<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| 4.4.<br>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<br><input type="checkbox"/> | No<br><input type="checkbox"/> |

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|           |                             |
|-----------|-----------------------------|
| 4.7.<br>1 | If so, furnish particulars: |
|-----------|-----------------------------|

**CERTIFICATION**

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

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

**I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

.....

**Signature**

.....

**Date**

.....

**Position**

.....

**Name of Bidder**

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# CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.

- (iii) 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.
- (iv) 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.

3.10.1This 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.

3.10.2In 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.

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**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.

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7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

1. prices;
2. 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.

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



## PARTICULARS OF BIDDER

THE FOLLOWING PARTICULARS MUST BE FURNISHED  
(FAILURE TO DO SO MAY RESULT IN YOUR BID BEING DISQUALIFIED)

Name of Bidder \_\_\_\_\_

Postal Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Street Address \_\_\_\_\_

\_\_\_\_\_

Telephone Number Code \_\_\_\_\_ Number \_\_\_\_\_

Cellphone Number \_\_\_\_\_

Facsimile Number Code: \_\_\_\_\_ Number: \_\_\_\_\_

Contact Person and Email: \_\_\_\_\_

Company / Enterprise Income Tax

Reference Number: \_\_\_\_\_ **NO / YES**

Has an original Tax Clearance Certificate been attached (MBD2)

Vat Registration Number \_\_\_\_\_

Company Registration No \_\_\_\_\_

\_\_\_\_\_

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Is the Firm registered or does it have a Business Licence(s):

(Tick one box)

YES

NO

If YES, give details and quote relevant Reference numbers and dates

---

---

Are you the accredited Representative in South Africa for the

Goods / services offered by you?

YES/NO (If YES enclose proof)

AN ORIGINAL TAX CLEARANCE CERTIFICATE MUST BE ATTACHED TO YOUR BID.

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm, affirms that the information furnished is true and correct.

Signature:

---

Date:

---

Duly authorised to sign on behalf of:

---

Address:

---

---

Telephone Number:

---

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## **ENQUIRY CONTACT DETAILS**

**ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE MAY BE DIRECTED TO:**

MUNICIPALITY: ALFRED DUMA LOCAL MUNICIPALITY

DEPARTMENT: BUDGET AND TREASURY

CONTACT PERSON: MS N F GODO

TEL: 036 637 2231

FAX: 086 214 7695

**ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:**

CONTACT PERSON: MR W.P MADONSELA

TEL: 036- 637 2231/ 064 755 9334

FAX: 036- 631 0415

# **ALFRED DUMA LOCAL MUNICIPALITY**

## **DEPARTMENT BUDGET AND TREASURY**

**CONTRACT NO. DF 05/2025**

**APPOINTMENT OF A PANEL OF SERVICE PROVIDERS  
FOR THE SUPPLY AND DELIVERY OF ELECTRICAL  
MATERIAL FOR A PERIOD OF THREE (3) YEARS**

### **CHECK LIST**

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## CHECK LIST

| NO  | DESCRIPTION                                                                      | TICKED BY BIDDER | TICKED BY MUNICIPAL REPRESENTATIVE |
|-----|----------------------------------------------------------------------------------|------------------|------------------------------------|
| 1   | Initial/ Sign of all pages                                                       |                  |                                    |
| 2   | Closing/ Bid Submission at 11:00                                                 |                  |                                    |
| 3   | Returnable documents completed                                                   |                  |                                    |
| 4   | Form of bid completed                                                            |                  |                                    |
| 5   | Original Tax Clearance Certificate attached                                      |                  |                                    |
| 6   | Original valid B-BBEE Status Level Verification Certificates or certified copies |                  |                                    |
| 7   | Pricing Schedule completed                                                       |                  |                                    |
| 8   | Preferential Points Claimed                                                      |                  |                                    |
| 9   | Pre-Qualifications completed                                                     |                  |                                    |
| z10 | All witnesses signed where it required                                           |                  |                                    |
| 11  | Bid Declaration with regard to Equity completed                                  |                  |                                    |
| 12  | Particulars of Bidders Completed                                                 |                  |                                    |

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|    |                                                                   |  |  |
|----|-------------------------------------------------------------------|--|--|
| 13 | Bid Declaration of interest Completed                             |  |  |
| 14 | Contract Form MBD Form 7.2 completed                              |  |  |
| 15 | Declaration of Bidders Past SCM Practice MBD Form 8 completed     |  |  |
| 16 | Certificate of Independent Bid Determination MBD Form 9 completed |  |  |
| 17 | Pricing Schedule                                                  |  |  |
| 18 | Audited 3 year Financial statement attached                       |  |  |
| 19 | Data base registration form completed                             |  |  |

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