CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

MEMORANDUM OF AGREEMENT

FOR THE

MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN- Main Service Provider for Schedule A and B

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

And

XON SYSTEMS (PTY) LTD

(Registration no. [redacted]

Contract No: 342S/2021/22

[redacted]

PREAMBLE

WHEREAS Tender **342S/2021/22** was awarded to **XON SYSTEMS (PTY) LTD** (Main Service Provider for both Schedule A and B), **DIMENSION DATA (PTY) LTD** (Standby Service Provider for schedule A), in line with the Supply Chain Management- Bid Adjudication Committee resolution **SCMB 30/11/22** dated **07 November 2022,** for the **MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN,** from date of commencement (not prior to 1 July 2023) until 30 June 2028

AND WHEREAS it is recorded that this Contract will be governed by the provisions of the National Treasury – Conditions of Contract (revised July 2010), General Conditions of Contract for the Supply of Goods and Services, ("**GCC**"), read with the Special Conditions of Contract ("**SCC**") annexed hereto marked "**PART 2: SPECIAL CONDITIONS OF CONTRACT**".

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. PARTIES

The Parties to this Contract are:

1.1. **The City of Cape Town**, a metropolitan municipality, established in terms of the Local Government: Municipal Structures Act. 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("**the Employer**"), herein represented by **The Executive Director Corporate Services** duly authorised hereto;

1.2. **XON SYSTEMS (PTY) LTD**, a private company duly registered in terms of the laws of the Republic of South Africa with registration no [redacted] with its principal place of business situated a [redacted] he Supplier"), herein represented by [redacted] in his/her capacity as [redacted].

Hereinafter, each a "Party" and together the "Parties".

2. INTERPRETATION

2.1. In the event of any conflict between the provisions of this Contract, the GCC and any Parts attached hereto, or any other document incorporated by reference to this Contract, save to the extent expressly stated to the contrary, such conflict will be

[redacted]

resolved by giving precedence to such different parts of this Contract in the following order of precedence:

2.1.1. first, the terms and conditions of the SCC;
2.1.2. second, the terms and conditions of the GCC;
2.1.3. third, Parts and Annexures to this Contract; and
2.1.4. fourth, any other documents incorporated by reference.

2.2. The provisions of this Contract supersede and replace the provisions of any previous agreement entered into between the Parties relating to the same subject matter.

3. APPOINTMENT AND DURATION

3.1. The Employer hereby appoints the Supplier to perform the Scope of Work for the Employer from the Commencement Date.

3.2. Unless terminated earlier in accordance with the provisions as set out in the GCC or any other provision in terms of this Contract, this Contract shall commence from date of commencement (not prior to 1 July 2023) until 30 June 2028.

4. MUTUAL GOOD FAITH / CO-OPERATION

4.1. The Parties represent and undertake to do all such things, perform all such acts and take all steps to procure the doing of all such things and the performance of all such acts, as may be necessary or incidental to give effect to the execution of this Contract.

4.2. The Parties shall at all times during the continuance of this Contract observe the principles of good faith towards one another in the performance of their obligations in terms of this Contract.

5. OBLIGATIONS OF THE EMPLOYER

5.1. The Employer undertakes to perform its obligations in accordance with the Contract, including but not limited to the Scope of Work (**PART 4: SPECIFICATIONS**), subject to the satisfactory fulfilment of the obligations by the Supplier as set out in this Contract.

5.2. The Employer shall monitor and evaluate the Supplier's performance in respect of the Scope of Work.

[redacted]

6. OBLIGATIONS OF THE SUPPLIER

6.1. The Supplier hereby agrees and undertakes to perform the Services to the Employer as set out in Scope of Work (**PART 4: SPECIFICATIONS**).

6.2. The Supplier will perform the Works as expeditiously as possible and furthermore agrees and undertakes to perform the services in accordance with the operational requirements of the Employer.

6.3. The Supplier will ensure that the Works will be of a satisfactory quality and fit for purpose.

6.4. The Supplier shall, ensure that its employees, agents, representatives, sub-contractors and suppliers comply with this Contract and all applicable Laws in the execution of the Works.

6.5. The Supplier will not conduct any activity of whatsoever nature which may be detrimental to the Employer's reputation and goodwill.

7. PRICING DATA

7.1. The Contract Price for the Works shall be as set out in the Pricing Data annexed marked "**PART 5: PRICING SCHEDULE**".

7.2. The Supplier shall not be entitled to any other consideration for the rendering of the Works other than as provided for in this Contract.

[redacted]

TENDER NO: 342S/2021/22

VOLUME 2: RETURNABLE DOCUMENTS
(3) DETAILS OF TENDERER

1.1 Type of Entity (Please tick one box)

☐ Individual / Sole Proprietor ☐ Close Corporation ☑ Company

☐ Partnership or Joint Venture or Consortium ☐ Trust ☐ Other .....

1.2 Required Details (Please provide applicable details in full)

Name of Company / Close Corporation or Partnership / Joint Venture / Consortium or Individual /Sole Proprietor	XCIN Systems (Pty) Ltd
Trading as (if different from above)	XCIN Systems (Pty) Ltd
Company / Close Corporation registration number (if applicable)	[redacted]
Postal address	[redacted] Postal Code [redacted]
Physical address **(Chosen domicilium citandi et executandi)**	[redacted] Postal Code [redacted]
Contact details of the person duly authorised to represent the tenderer	Name: Mr/Ms [redacted] (Name & Surname) Telephone [redacted] Fax [redacted] Cellular Teleph [redacted] E-mail address. [redacted]
Income tax number	[redacted]
VAT registration number	[redacted]
SARS Tax Compliance Status PIN	[redacted]
City of Cape Town Supplier Database Registration Number (See Conditions of Tender)	[redacted]
National Treasury Central Supplier Database registration number (See Conditions of Tender)	[redacted]

[redacted]

[redacted]

TENDER NO: 342S/2021/22

(4) FORM OF OFFER AND ACCEPTANCE

TENDER 342S/2021/22 FOR THE MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN

OFFER: (TO BE FILLED IN BY TENDERER):

Required Details (Please provide applicable details in full):

Name of Tendering Entity* ("the tenderer")	XON Systems (Pty) Ltd
Trading as (if different from above)	XON Systems (Pty) Ltd

AND WHO IS represented herein by: (full names of signatory)
Alycia Anderson

duly authorised to act on behalf of the tenderer in his capacity as: (title/ designation)
Account Executive

HEREBY AGREES THAT by signing the *Form of Offer and Acceptance*, the tenderer:

1. confirms that it has examined the documents listed in the index (including Schedules and Annexures) and has accepted all the Conditions of Tender;
2. confirms that it has received and incorporated any and all notices issued to tenderers issued by the CCT;
3. confirms that it has satisfied itself as to the correctness and validity of the tender offer; that the price(s) and rate(s) offered cover all the goods and/or services specified in the tender documents; that the price(s) and rate(s) cover all its obligations and accepts that any mistakes regarding price(s), rate(s) and calculations will be at its own risk;
4. offers to supply all or any of the goods and/or render all or any of the services described in the tender document to the CCT in accordance with the
   - **4.1** terms and conditions stipulated in this tender document;
   - **4.2** specifications stipulated in this tender document; and
   - **4.3** at the prices as set out in the **Price Schedule**;
5. accepts full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on it in terms of the Contract.

[redacted]
Signature(s)

[redacted]
Print name(s):
On behalf of the tenderer (duly authorised)

20 June 2022
Date

[redacted]

[redacted]

[redacted]

PART 1 : AGREEMENTS

TENDER NO: 342S/2021/22 - MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN

(TO BE FILLED IN BY THE CITY)

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the supplier the amount due in accordance with the conditions of contract. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

Clause 1 to 7, and the sub-clauses, cited in pages 1 to 5 above;
Part 1: Agreements
Part 2: Special Conditions to Contract
Part 3: General Conditions of Contract
Part 4: Specifications
Part 5: Pricing Schedule
Part 6: Occupational Health and Safety Agreement.
Part 7: Information to be provided by the Supplier.

and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documents to be provided in terms of the conditions of contract identified in the special contract conditions. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect from date of commencement (not prior to 1 July 2022) until 30 June 2028. The tenderer (now supplier) shall within five working days of the agreement coming into effect notify the employer in writing of any reason why he cannot accept the contents of this agreement as a complete and accurate memorandum thereof, failing which the agreement presented to the contractor shall constitute the binding contract between the parties.

ES VF

TENDER NO: 342S/2021/22 - MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN

The Parties	Employer	Contractor 1
Business Name	**CITY OF CAPE TOWN**	**XON SYSTEMS (PTY) LTD**
Business Registration	[redacted]	[redacted]
Tax number (VAT)	[redacted]	[redacted]
Physical Address	[redacted]	[redacted]
Accepted contract sum including tax	As Per PART 5, below	
Accepted contract duration	from date of commencement (not prior to 1 July 2023) until 30 June 2028.	
Signed – who by signature hereto warrants authority	**The Executive Director: Corporate Services**	**Account Executive**
Name of signatory	[redacted]	[redacted]
Signed: Date		
Signed: Location		
Signed: Witness		
Name of Witness		

[redacted]

TENDER NO: 342S/2021/22 - MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN

(TO BE FILLED IN BY THE CITY)

Schedule of Deviations

Notes:

1. The extent of deviations from the tender documents issued by the CCT before the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1 Subject **Clarification notice 1- dated 08 June 2022- Tender 342S/2021/22- MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN**

Details. **Amendments to tender document**

1. Tenderers should take note of the following:

- **Page 5 be replaced with page 5A.**
- **Page 18 be replaced with page 18A**

By the duly authorised representatives signing this agreement, the CCT and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to this tender document and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the CCT during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

[redacted]

PART 2: SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract, referring to the National Treasury – Conditions of Contract (revised July 2010), are applicable to this Contract:

1. Definitions

Delete Clause 1.15 and substitute with the following

1.15 The word 'Goods' is to be replaced everywhere it occurs in the GCC with the phrase 'Goods and / or Services' which means all of the equipment, machinery, materials, services, products, consumables, etc. that the supplier is required to deliver to the purchaser under the contract. This definition shall also be applicable, as the context requires, anywhere where the words "supplies" and "services" occurs in the GCC.

Delete Clause 1.19 and substitute with the following

1.19 The word 'Order' is to be replaced everywhere it occurs in the GCC with the words 'Purchase Order' which means the official purchase order authorised and released on the purchaser's SAP System

Delete Clause 1.21 and substitute with the following:

1.21 'Purchaser' means the **City of Cape Town**. The address of the Purchaser is **12 Hertzog Boulevard, Cape Town, 8001**.

Add the following after Clause 1.25:

1.26 'Supplier' means any provider of goods and / or services with whom the contract is concluded

1.27 "Intellectual Property" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites

3. General Obligations

Delete Clause 3.2 in its entirety and replace with the following clauses.

3.2 The parties will be liable to each other arising out of or in connection with any breach of the obligations detailed or implied in this contract, subject to clause 28.

3.3 All parties in a joint venture or consortium shall be jointly and severally liable to the purchaser in terms of this contract and shall carry individually the minimum levels of insurance stated in the contract, if any.

3.4 The parties shall comply with all laws, regulations and bylaws of local or other authorities having jurisdiction regarding the delivery of the goods and give all notices and pay all charges required by such authorities.

3.4.1 The parties agree that this contract shall also be subject to the CCT's Supply Chain

[redacted]

Management Policy ('SCM Policy') that was applicable on the date the bid was advertised, **save that if the Employer adopts a new SCM Policy which contemplates that any clause therein would apply to the contract emanating from this tender, such clause shall also be applicable to that contract**. Please refer to this document contained on the CCT's website.

3.4.2 Abuse of the supply chain management system is not permitted and may result in cancellation of the contract, restriction of the supplier, and/or the exercise by the City of any other remedies available to it as described in the SCM Policy.

3.5 The **supplier** shall:

3.5.1 Arrange for the documents listed below to be provided to the Purchaser prior to the issuing of the order:

a) Proof of Insurance (Refer to Clause 11) or Insurance Broker's Warrantee
b) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 11)
c) Initial delivery programme
d) Other requirements as detailed in the tender documents

3.5.2 Only when notified of the acceptance of the bid by the issuing of the order, the supplier shall commence with and carry out the delivery of the goods in accordance with the contract, to the satisfaction, of the purchaser

3.5.3 Provide all of the necessary materials, labour, plant and equipment required for the delivery of the goods including any temporary services that may be required

3.5.4 Insure his workmen and employees against death or injury arising out of the delivery of the goods

3.5.5 Be continuously represented during the delivery of the goods by a competent representative duly authorised to execute instructions;

3.5.6 In the event of a loss resulting in a claim against the insurance policies stated in clause 11, pay the first amount (excess) as required by the insurance policy

3.5.7 Comply with all written instructions from the purchaser subject to clause 18

3.5.8 Complete and deliver the goods within the period stated in clause 10, or any extensions thereof in terms of clause 21

3.5.9 Make good at his own expense all incomplete and defective goods during the warranty period

3.5.10 Pay to the purchaser any penalty for delay as due on demand by the purchaser. The supplier hereby consents to such amounts being deducted from any payment to the supplier.

3.5.11 Comply with the provisions of the OHAS Act & all relevant regulations.

3.5.12 Comply with all laws relating to wages and conditions generally governing the employment of labour in the Cape Town area and any applicable Bargaining Council agreements.

3.5.13 Deliver the goods in accordance with the contract and with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.

3.6 The **purchaser** shall:

[redacted]

3.6.1 Issue orders for the goods required under this Contract. No liability for payment will ensue for any work done if an official purchase order has not been issued to the supplier.

3.6.2 Make payment to the **supplier** for the goods as set out herein.

3.6.3 Take possession of the goods upon delivery by the supplier.

3.6.4 Regularly inspect the goods to establish that it is being delivered in compliance with the contract.

3.6.5 Give any instructions and/or explanations and/or variations to the supplier including any relevant advice to assist the supplier to understand the contract documents.

3.6.6 Grant or refuse any extension of time requested by the supplier to the period stated in clause 10.

3.6.7 Inspect the goods to determine if, in the opinion of the purchaser, it has been delivered in compliance with the contract, alternatively in such a state that it can be properly used for the purpose for which it was intended.

3.6.8 Brief the supplier and issue all documents, information, etc. in accordance with the contract.

5. Use of contract documents and information; inspection, copyright, confidentiality, etc.

Add the following after clause 5.4:

5.5 Copyright of all documents prepared by the supplier in accordance with the relevant provisions of the copyright Act (Act 98 of 1978) relating to contract shall be vested in the purchaser. Where copyright is vested in the supplier, the purchaser shall be entitled to use the documents or copy them only for the purposes for which they are intended in regard to the contract and need not obtain the supplier's permission to copy for such use. Where copyright is vested in the purchaser, the supplier shall not be liable in any way for the use of any of the information other than as originally intended for the contract and the purchaser hereby indemnifies the supplier against any claim which may be made against him by any party arising from the use of such documentation for other purposes.

The ownership of data and factual information collected by the supplier and paid for by the purchaser shall, after payment, vest with the purchaser

5.6 Publicity and publication
The supplier shall not release public or media statements or publish material related to the services or contract within two (2) years of completion of the services without the written approval of the purchaser, which approval shall not be unreasonably withheld.

5.7 Confidentiality
Both parties shall keep all information obtained by them in the context of the contract confidential and shall not divulge it without the written approval of the other party.

5.8 Intellectual Property

5.8.1 The supplier acknowledges that it shall not acquire any right, title or interest in or to the Intellect Property of the Employer.

[redacted]

5.8.2 The supplier hereby assigns to the Employer, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the contract, unless the Parties expressly agree otherwise in writing.

5.8.3 The supplier shall, and warrants that it shall:

5.8.3.1 not be entitled to use the Employer's Intellectual Property for any purpose other than as contemplated in this contract;

5.8.3.2 not modify, add to, change or alter the Employer's Intellectual Property, or any information or data related thereto, nor may the supplier produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Employer;

5.8.3.3 not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Employer;

5.8.3.4 comply with all reasonable directions or instructions given to it by the Employer in relation to the form and manner of use of the Employer Intellectual Property, including without limitation, any brand guidelines which the Employer may provide to the supplier from time to time;

5.8.3.5 procure that its employees, directors, members and contractors comply strictly with the provisions of clauses 5.8.3.1 to 5.8.3.3 above;

unless the Employer expressly agrees thereto in writing after obtaining due internal authority.

5.8.4 The supplier represents and warrants to the Employer that, in providing goods, services or both, as the case may be, for the duration of the contract, it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Employer from any claims, liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the supplier of any third party's Intellectual Property rights.

5.8.5 In the event that the contract is cancelled, terminated, ended or is declared void, any and all of the Employer's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Employer by the supplier and no copies thereof shall be retained by the supplier unless the Employer expressly and in writing, after obtaining due internal authority, agrees otherwise.

7. Performance Security

Delete clause 7.1 to 7.4 and replace with the following:

'Not Applicable. Tenderers must disregard **Form of Guarantee / Performance Security** and are not required to complete same.

8. Inspections, tests and analyses

Delete Clause 8.2 and substitute with the following:

8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the purchaser or an organisation acting on behalf of the purchaser.

10. Delivery and documents

[redacted]

Delete clauses 10.1 and 10.2 and replace with the following:

10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The time for delivery of the goods shall be the date as stated on the order. Orders for the supply and delivery of goods may be raised up until the expiry of a framework agreement bid, provided that the goods can be delivered within 30 days of expiry of the framework contract. All orders, other than for the supply and delivery of goods, must be completed prior to the expiry of the contract period.

10.2 The purchaser shall determine, in its sole discretion, whether the goods have been delivered in compliance with the contract, alternatively in such a state that it can be properly used for the purpose for which it was intended. When the purchaser determines that the goods have been satisfactorily delivered, the purchaser must issue an appropriate certification, or written approval, to that effect. Invoicing may only occur, and must be dated, on or after the date of acceptance of the goods.

11. Insurance

Add the following after clause 11.1:

11.2 Without limiting the obligations of the supplier in terms of this contract, the supplier shall effect and maintain the following additional insurances:

a) Public liability insurances, in the name of the supplier, covering the supplier and the purchaser against liability for the death of or injury to any person, or loss of or damage to any property, arising out of or in the course of this Contract, in an amount not less than **R20 million** for any single claim;

b) Motor Vehicle Liability Insurance, in respect of all vehicles owned and / or leased by the supplier, comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity;

c) Registration / insurance in terms of the Compensation for Occupational Injuries and Disease Act, Act 130 of 1993. This can either take the form of a certified copy of a valid Letter of Good Standing issued by the Compensation Commissioner, or proof of insurance with a licenced compensation insurer, from either the bidder's broker or the insurance company itself (see **Proof of Insurance / Insurance Broker's Warranty** section in document for a pro forma version).

d) Professional indemnity insurance providing cover in an amount of not less than R5 million in respect of each and every claim during the contract period.- NOT APPLICABLE

In the event of under insurance or the insurer's repudiation of any claim for whatever reason, the CCT will retain its right of recourse against the supplier.

11.3 The supplier shall be obliged to furnish the CCT with proof of such insurance as the CCT may require from time to time for the duration of this Contract. Evidence that the insurances have been effected in terms of this clause, shall be either in the form of an insurance broker's warranty worded precisely as per the pro forma version contained in the **Proof of Insurance / Insurance Broker's Warranty** section of the document or copies of the insurance policies.

15. Warranty

Add to Clause 15.2:

15.2 This warranty for this contract shall remain valid for **twelve (12) months** after the goods have

[redacted]

been delivered and work performed.

16. Payment

Delete Clause 16.1 in its entirety and replace with the following:

16.1 A monthly payment cycle will be the norm. All invoices which are dated on or before the 20th of a particular month will typically be paid between the 23rd and 26th of the following month. The supplier may submit a fully motivated application regarding more frequent payment to the Employer's Director: Expenditure for consideration. Requests for more frequent payments will be considered at the sole discretion of the Employer and is not a right in terms of this contract.

Delete Clause 16.2 in its entirety and replace with the following:

16.2 The supplier shall furnish the purchaser's Accounts Payable Department with an original tax invoice, clearly showing the amount due in respect of each and every claim for payment.

Add the following after clause 16.4

16.5 Notwithstanding any amount stated on the order, the supplier shall only be entitled to payment for goods actually delivered in terms of the Project Specification and Drawings, or any variations in accordance with clause 18. Any contingency sum included shall be for the sole use, and at the discretion, of the purchaser.

The CCT is not liable for payment of any invoice that pre-dates the date of delivery of the goods.

16.6 The purchaser will only make advanced payments to the supplier in strict compliance with the terms and details as contained on **Proforma Advanced Payment Guarantee** and only once the authenticity of such guarantee has been verified by the City's Treasury Department.

17. Prices

Add the following after clause 17.1

17.2 If as a result of an award of a contract beyond the original tender validity period, the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then the contract may be subject to contract price adjustment for that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Director: Supply Chain Management if such was not included in the bid documents.

17.3 If as a result of any extension of time granted the contract execution will be completed beyond a period of twelve (12) months from the expiry of the original tender validity period, then contract price adjustment may apply to that period beyond such twelve (12) months. An appropriate contract price adjustment formula will be determined by the Director: Supply Chain Management if such was not included in the bid documents.

17.4 The prices for the goods delivered and services performed shall be subject to contract price adjustment and the following conditions will be applicable: **NOT APPLICABLE**

17.5 If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract, such adjustment shall be based on the information contained on the schedule titled "**Price Basis for Imported Resources**" and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled "**Price Basis for Imported Resources**" (column (F)) shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate

[redacted]

quoted by **CCT's** main banker, NEDBANK, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column(B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

17.5.1 Adjustment for variations in rates of exchange:

(a) The value in foreign currency inserted in column (A) shall be subject to clause (h) below when recalculating the Rand value.

(b) The rate of exchange inserted in column (B) shall be the closing spot selling rate quoted by Council's main banker, NEDBANK, on the Base Date, rounded to the second decimal place, subject to sub-paragraph (c) below.

(c) If the rate of exchange inserted by the Tenderer differs from the NEDBANK rate referred to above, then the NEDBANK rate shall apply and the Rand value in columns (C) and (F) shall be recalculated accordingly, without altering the price in the Price Schedule for the relevant items.

(d) If a tender from a supplier or sub-contractor provides for variations in rates of exchange, the Supplier may **only** claim for variations in rates of exchange if he binds the supplier or sub-contractor to the same provision to take out forward cover as described in sub-paragraph (e) below.

(e) The Supplier (or sub-contractor) shall within five working days from the date of placing a firm order on an overseas supplier, cover or recover forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the scheduled titled **"Price Basis for Imported Resources"**.

(f) When the Supplier (or sub-contractor) so obtains forward cover, the Supplier shall immediately notify the CCT of the rate obtained and furnish the CCT with a copy of the foreign exchange contract note.

(g) Based on the evidence provided in sub-paragraph (f) above, the value in Rand inserted in column (C) of on the schedule titled **"Price Basis for Imported Resources** "shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to sub-paragraph (h) below.

(h) The adjustments shall be calculated upon the value in foreign currency in the Supplier's (or sub-contractor's) **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of on the schedule titled **"Price Basis for Imported Resources"**, then the value in column (A) shall be used.

17.53.2 Adjustment for variations in customs surcharge and customs duty

(a) Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in on the schedule titled **"Price Basis for Imported Resources"** and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.

(b) The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Supplier shall advise the CCT's Agent of any changes which occur.

17.5.3 Adjustment for variation in labour and material Costs

If the prices for imported Plant and Materials are not fixed, the Supplier shall in his Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. Evidence of the indices applicable shall be provided with each claim. The indices applicable 42 days before contractual dispatch date from the factory will be used for the purposes of Contract Price Adjustment.

Failure to specify a formula in the Tender shall mean that the prices are fixed or shall be deemed to be fixed.

18. Contract Amendments

Delete the heading of clause 18 and replace with the following:

18. Contract Amendments and Variations

Add the following to clause 18.1:

Variations means changes to the goods, extension of the duration or expansion of the value of the contract that the purchaser issues to the supplier as instructions in writing, subject to prior approval by the purchaser's delegated authority. Should the supplier deliver any goods not described in a written instruction from the purchaser, such work will not become due and payable until amended order has been issued by the purchaser.

20. Subcontracts

Add the following after clause 20.1:

20.2 The supplier shall be liable for the acts, defaults and negligence of any subcontractor, his agents or employees as fully as if the were the acts, defaults or negligence of the supplier.

20.3 Any appointment of a subcontractor shall not amount to a contract between the CCT and the subcontractor, or a responsibility or liability on the part of the CCT to the subcontractor and shall not relive the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

Delete Clause 21.2 in its entirety and replace with the following:

21.2 If at any time during the performance of the contract the supplier or its sub-contractors should encounter conditions beyond their reasonable control which impede the timely delivery of the goods, the supplier shall notify the purchaser in writing, within 7 Days of first having become aware of these conditions, of the facts of the delay, its cause(s) and its probable duration. As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation, and may at his discretion extend the time for delivery.

Where additional time is granted, the purchaser shall also determine whether or not the supplier is entitled to payment for additional costs in respect thereof. The principle to be applied in this regard is that where the purchaser or any of its agents are responsible for the delay, reasonable costs shall be paid. In respect of delays that were beyond the reasonable control of both the supplier and the purchaser, additional time only (no costs) will be granted.

The purchaser shall notify the supplier in writing of his decision(s) in the above regard.

[redacted]

21.3 No provision in a contract shall be deemed to prohibit the obtaining of goods from a national department, provincial department, or a local authority.

22. Penalties

Delete clause 22.1 and replace with the following:

22.1 Subject to GCC Clause 25 and except as provided for in Clause 21.2, if the supplier fails to deliver any or all of the goods 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 as stated herein below for each day of the delay, until the actual delivery of the goods or the performance of the required services.

The penalty for this contract shall be determined in accordance with the following:

#	Performance Element	Performance Measure	Performance Metric	Penalty
1	Contact Information	Schedule of Contact Information for key staff maintained at all times	Contact details are accurate, complete and current, as measured by random check	Two (2) Grief Points per occurrence (incident) when one or more of the required details were found to be incorrect (i.e. *not* accurate, complete or current) NB. Penalty is due per incident, not per data point
2	Procurement Process	Adherence to the City's order, delivery, and payment processes	As evidenced by date stamp on Purchase Orders, GRN, SES, invoices and any other official document	Fifteen (15) Grief Points per purchase order for late delivery
3	Project Quotations	Provide detailed project specifications and quotation	Delivered by the end of the third (3rd) Business Day after the day that the City's requirements are provided, as evidenced by email date stamp	One (1) Grief Point for each full Business Day that a quotation is late
4	Guarantee	Guarantee (repair or replace) on all equipment, parts and labour, on completion of each new installation	Twelve (12) Calendar Months from date of acceptance of each new installation	Five (5) Grief Points for each case of non-performance of thesupplier's obligations in terms of a Guarantee
5	Support & Maintenance Program	Provide *ad hoc* Support & Maintenance Services	Performed in terms of quotation provided	One (1) Grief Point for each full Business Day that the required Support and Maintenance Program is late

[redacted]

#	Performance Element	Performance Measure	Performance Metric	Penalty
		Prepare Support and Maintenance Program	Delivered by the end of the seventh (7th) Business Day after the date of request, as evidenced by email date stamp	Five (5) Grief Points for each instance in which the suppplier has not provided the services as ordered
		Adherence to the approved Support and Maintenance Program	Requested activities performed within 24 hours of scheduled date, as evidenced by SES date and time	Five (5) Grief Points for each instance in which the supplier has not provided the services as ordered
6	Emergency Repairs	Response Time: arrival on site (when needed)	Business Hours: ≤ two (2) hours excluding any hours not in Daylight Hours (subject to access being provided)	Response Time exceeds the maximum allowed: Three (3) Grief Points per occurrence
			Any other time: ≤ four (4) hours excluding any hours not in Daylight Hours (subject to access being provided)	Response Time exceeds the maximum allowed: Three (3) Grief Points per occurrence
		Maximum and Mean Time To Restore		
		Maximum Time To Restore (excludes hours not in Daylight hours for work on site, if remote repair is not possible, subject to access)	Normal Service restored ≤ six (6) hours from Call-Out Time (remote repairs) or from arrival on site, which ever comes later	Maximum Time To Restore exceeds the maximum allowed: Five (5) Grief Points per occurrence
		Mean Time To Restore (excludes hours not in Daylight hours for work on site, if remote repair is not possible, subject to access)	Normal Service restored ≤ four (4) hours (moving twelve month average)	Mean Time To Restore exceeds the maximum allowed: Ten (10) Grief Points per occurrence (i.e. each month that the moving average exceeds the maximum allowed)
7	OEM support	Availability of support	Always available when requested	OEM Support found to be unavailable when required: Five (5) Grief Points per occurrence
		Issue Resolution Time (3rd Level Support)	≤ 48 hours (excludes time for replacement of components and parts)	Issue Resolution Time (3rd Level Incident Response) exceeds the maximum time allowed: Five (5) Grief Points per occurrence
8	Availability	Average uptime of all Switching Centre Infrastructure	≥ 99% all hours (as per the Uptime Institute International Tier ratings)	None. Availability less than the minimum allowed may

[redacted]

#	Performance Element	Performance Measure	Performance Metric	Penalty
		equipment in the Metro Area Network (Branch target only)		be indirectly penalised as a result of non-performance of the supplier in terms of (1) Guarantee (2) Support & Maintenance Program (3) Emergency Repairs (4) OEM support
9	Reporting	Comments on reports produced by the MAN Network Manager and/or the TOC and/or the TBS Plan & Build or Operations section	Within three (3) full Business Days, as evidenced by as evidenced by email date stamp	One (1) Grief Point for each full Business Day that a response is late
10	Review Meetings	Attendance by the Client Liaison / Account Manager at scheduled Review Meetings	As evidenced by signed meeting minutes or attendance register	Three (3) Grief Points of each instance of non-attendance

Whenever a Performance Metric is not achieved, the Infringement will cause the stipulated number of Grief Points to be incurred. The City shall be entitled (but not obliged) to apply the relevant for each Infringement by recording the incurrence of Grief Points.

- When incurred, the Grief Points will be totalled up at the end of each Calendar Month.
- If the total number of Grief Points incurred in a single Calendar Month is more than fifteen (>15) (the Grief Point Threshold) at any time during the Contact Period, then a Non-Compliance Event has occurred.
- The occurrence of a Non-Compliance Event will result in the City imposing a Performance Penalty, which may be claimed by the City from the supplier.
- On the first occurrence of a Non-Compliance Event, the City will claim a Performance Penalty of 5% of the purchase order value where delivery of goods exceeds the specified delivery period.
- The first occurrence of a Non-Compliance Event initiates a 12-month rolling period. This 12-month rolling period will commence on the 1st day of the Calendar Month in which the first Non-Compliance Event occurred. Thereafter, the 12-month rolling period shall be defined as the current Calendar Month and the previous 11 Calendar Months.
- On the second occurrence of a Non-Compliance Event in a 12-month rolling period, the City will claim a Performance Penalty of 10% (ten percent) of the purchase order value where delivery of goods exceeds the specified delivery period.
- On the third occurrence of a Non-Compliance Event in a 12-month rolling period, the City will claim a Performance Penalty of 15% (fifteen percent) of the purchase order value where delivery of goods exceeds the specified delivery period.
- In the case of unforeseen issues causing late delivery, it the responsibility of the Supplier to timeously inform the City if the goods ordered will not meet the contract delivery period.

[redacted]

Should the Contractor accumulate 15 (fifteen) or more Grief Points during a Calendar Month more than 3 (three) times during a 12-month rolling period (i.e. more than three Non-Compliance Events within twelve months), this will give rise to a Performance Termination Event, which the City may exercise at its discretion.

22.2 The purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, financial penalties as contained in the **Preference Schedule** relaying to breaches of the conditions upon which preference points were awarded.

23. Termination for default

Delete the heading of clause 23 and replace with the following:

23. Termination

Add the following to the end of clause 23.1:

if the supplier fails to remedy the breach in terms of such notice

Add the following after clause 23.7:

23.8 In addition to the grounds for termination due to default by the supplier, the contract may also be terminated:

23.8.1 Upon the death of the supplier who was a Sole Proprietor, or a sole member of a Close Corporation, in which case the contract will terminate forthwith.

23.8.2 The parties by mutual agreement terminate the contract.

23.8.3 If an Order has been issued incorrectly, or to the incorrect recipient, the resulting contract may be terminated by the purchaser by written notice

23.8.4 If a material irregularity vitiates the procurement process leading to the conclusion of the contract, rendering the procurement process and the conclusion of the resulting contract unfair, inequitable, non-transparent, uncompetitive or not cost-effective, provided the City Manager follows the processes as described in the purchasers SCM Policy.

23.8.5 After providing notice to the supplier, if the implementation of the contract may result in reputational risk or harm to the City as a result of (inter alia):

23.8.5.1 reports of poor governance and/or unethical behaviour;
23.8.5.2 association with known family of notorious individuals;
23.8.5.3 poor performance issues, known to the Employer;
23.8.5.4 negative social media reports; or
23.8.5.5 adverse assurance (e.g. due diligence) report outcomes..

23.9 If the contract is terminated in terms of clause 23.8, all obligations that were due and enforceable prior to the date of the termination must be performed by the relevant party.

26. Termination for insolvency

Delete clause 26.1 and replace with the following:

26.1 The purchaser may make either of the following elections to ensure its rights are protected and any negative impact on service delivery is mitigated:

[redacted]

26.1.1 accept a supplier proposal (via the liquidator) to render delivery utilising the appropriate contractual mechanisms; or

26.1.2 terminate the contract, as the liquidator proposed supplier is deemed unacceptable to the purchaser, at any time by giving written notice to the supplier (via the liquidator).

26.2 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

Amend clause 27.1 as follows:

27.1 If any dispute or difference of any kind whatsoever, with the exception of termination in terms of clause 23.1(c), arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve such dispute or difference amicably, by mutual consultation.

Delete Clause 27.2 in its entirety and replace with the following:

27.2 Should the parties fail to resolve any dispute by way of mutual consultation, either party shall be entitled to refer the matter for mediation before an independent and impartial person appointed by the City Manager in accordance with Regulation 50(1) of the Local Government: Municipal Finance Management Act, 56 of 2003 – Municipal Supply Chain Management Regulations (Notice 868 of 2005). Such referral shall be done by either party giving written notice to the other of its intention to commence with mediation. No mediation may be commenced unless such notice is given to the other party.

Irrespective whether the mediation resolves the dispute, the parties shall bear their own costs concerning the mediation and share the costs of the mediator and related costs equally.

The mediator shall agree the procedures, representation and dates for the mediation process with the parties. The mediator may meet the parties together or individually to enable a settlement.

Where the parties reach settlement of the dispute or any part thereof, the mediator shall record such agreement and on signing thereof by the parties the agreement shall be final and binding.

Save for reference to any portion of any settlement or decision which has been agreed to be final and binding on the parties, no reference shall be made by or on behalf of either party in any subsequent court proceedings, to any outcome of an amicable settlement by mutual consultation, or the fact that any particular evidence was given, or to any submission, statement or admission made in the course of amicable settlement by mutual consultation or mediation.

28. Limitation of Liability

Delete clause 28.1 (b) and replace with the following:

(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in

[redacted]

tort or otherwise, shall not exceed the sums insured in terms of clause 11 in respect of insurable events, or where no such amounts are stated, to an amount equal to twice the contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

Add the following after clause 28.1:

28.2 Without detracting from, and in addition to, any of the other indemnities in this contract, the supplier shall be solely liable for and hereby indemnifies and holds harmless the purchaser against all claims, charges, damages, costs, actions, liability, demands and/or proceedings and expense in connection with:

a) personal injury or loss of life to any individual;
b) loss of or damage to property;

arising from, out of, or in connection with the performance by the supplier in terms of this Contract, save to the extent caused by the gross negligence or wilful misconduct of the purchaser.

28.3 The supplier and/or its employees, agents, concessionaires, suppliers, sub-contractors or customers shall not have any claim of any nature against the purchaser for any loss, damage, injury or death which any of them may directly or indirectly suffer, whether or not such loss, damages, injury or death is caused through negligence of the purchaser or its agents or employees.

28.4 Notwithstanding anything to the contrary contained in this Contract, under no circumstances whatsoever, including as a result of its negligent (including grossly negligent) acts or omissions or those of its servants, agents or contractors or other persons for whom in law it may be liable, shall any party or its servants (in whose favour this constitutes a *stipulatio alteri*) be liable for any indirect, extrinsic, special, penal, punitive, exemplary or consequential loss or damage of any kind whatsoever, whether or not the loss was actually foreseen or reasonably foreseeable), sustained by the other party, its directors and/or servants, including but not limited to any loss of profits, loss of operation time, corruption or loss of information and/or loss of contracts.

28.5 Each party agrees to waive all claims against the other insofar as the aggregate of compensation which might otherwise be payable exceeds the aforesaid maximum amounts payable.

31. Notices

Delete clauses 31.1 and 31.2 and replace with the following:

31.1 Any notice, request, consent, approvals or other communications made between the Parties pursuant to the Contract shall be in writing and forwarded to the addresses specified in the contract and may be given as set out hereunder and shall be deemed to have been received when:

a) hand delivered – on the working day of delivery
b) sent by registered mail – five (5) working days after mailing
c) sent by email or telefax – one (1) working day after transmission

32. Taxes and Duties

Delete the final sentence of 32.3 and replace with the following:

In this regard, it is the responsibility of the supplier to submit documentary evidence in the form of a valid Tax Clearance Certificate issued by SARS to the CCT at the Supplier Management

[redacted]

Unit located within the Supplier Management / Registration Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5).

Add the following after clause 32.3:

32.4 The **VAT registration** number of the City of Cape Town is [redacted]

ADDITIONAL CONDITIONS OF CONTRACT

Add the following Clause after Clause 34:

35. Reporting Obligations.

35.1 The supplier shall complete, sign and submit with each delivery note, all the documents as required in the Specifications. Any failure in this regard may result in a delay in the processing of any payments.

36. Performance Statistics and Review Meetings

On award and throughout the life of the contract, the Performance Measures will be tracked and the Performance Metrics recorded. For each Infringement, the appropriate number of Grief Points will be recorded.

The City will:

- Report infringements and the Penalties (Grief Points) incurred by means of at least an email sent monthly or when required.
- Hold a Performance Review Meeting as necessary, where the Performance Metrics as recorded by the City and the Contractor will be compared and reviewed, and the overall performance of the Contractor may be discussed.

Review Meetings:

- May be called at any time at the City's discretion, though normally once per month
- Will be scheduled with at least two Calendar Weeks' notice
- Must be attended by the Contractor's Key Contact Person, or formally delegated
- Will, whenever possible, be preceded by the provision of the documented Performance Metrics and Grief Points incurred by the Contractor
- Will be the mechanism by which the occurrence of a Non-Compliance Event is conveyed

37. Methodology (Main vs Standby)

Main - the highest ranked responsive tenderer that will be awarded per schedule

Standby - means a supplier(s) appointed by the City under a framework agreement to be available to execute works orders as and when the need arises, if higher ranked supplier(s) has refused, or is unable to perform, a specific works order.

38. Technical Support

Tenderers are required to have a 24 hour technical support help desk for the duration of the contract..

33. Protection of Personal Information

33.1 The Supplier acknowledges that, for the purposes of the service level agreement, they may come into contact with or have access to personal information and other information that may be classified or deemed as private or confidential and for which CCT is responsible in terms of

[redacted]

POPIA. Such personal information may also be deemed or considered as private and confidential as it relates to POPIA.

33.2 The Supplier agrees that they will at all times comply with POPIA and CCT's Privacy Notice, and that it shall only collect, use and process personal information it comes into contact with pursuant to this agreement in a lawful manner, and only to the extent required to execute the services, or to provide the goods and to perform their obligations in terms of the service level agreement.

33.3 The Supplier agrees that it shall put in place, and at all times maintain, appropriate physical, technological and contractual security measures to ensure the protection and confidentiality of the personal information that it, or its employees, its contractors or other authorised individuals comes into contact in relation to the service level agreement.

33.4 The Supplier agrees that it shall notify CCT immediately where there are reasonable grounds to believe that the personal information of a data subject has been accessed or acquired by any unauthorised person.

33.5 Unless so required by law, the Supplier agrees that it shall treat the personal information as confidential and further not disclose any personal information as defined in POPIA to any third party without the prior written consent of CCT.

33.6 The Supplier hereby indemnifies and holds the CCT harmless against all claims, losses, damages and costs of whatsoever nature suffered by CCT arising from or in relation to the Supplier's (and/or its employees', agents' and sub-contractors') non-compliance with applicable data protection laws and/or other legislation.

33.7 The Supplier agrees that Employer/CCT may conduct regular data protection audits on the Supplier and undertakes to give its full co-operation in this regard.

37. Performance Monitoring

37.1 As required by section 116(2)(b) of the Local Government: Municipal Financial Management Act 56 of 2003, the City shall monitor the performance of the supplier on at least a monthly basis, and the supplier agrees to provide the City with its full cooperation in this regard.

[redacted]

'ANNEXURE A'

Logo

Letterhead of supplier's Insurance Broker

Date _____

CITY OF CAPE TOWN
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8000

Dear Sir

TENDER NO.: **342S/2021/22**

TENDER DESCRIPTION: **MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN**

NAME OF SUPPLIER: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CITY OF CAPE TOWN with regard to the abovementioned contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: _____

For: _____ (Supplier's Insurance Broker)

[redacted]

PART 3: GENERAL CONDITIONS OF CONTRACT

(National Treasury - General Conditions of Contract (revised July 2010))

TABLE OF CLAUSES

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 or her contractual obligations.

1.4 'Corrupt practice' means the offering, giving, receiving, or soliciting of anything 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 in which an enterprise abroad is subsidised 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 recognised 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 with 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 consignee's 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 supplies are so delivered and a valid receipt is obtained.

1.11 'Dumping' occurs when a private enterprise abroad markets its goods on its own initiative in the RSA at lower prices than that of the country of origin, and which action has the potential to harm the local industries in the RSA.

1.12 'Force majeure' means an event beyond the control of the supplier, not involving the supplier's fault or negligence, and not foreseeable. Such events may include, but are 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 supplies 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 organisation 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 'Written' or 'in writing' means handwritten 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, 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 supplies, 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 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za.

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 the 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 the use of the goods or any part thereof by the purchaser.

7. Performance Security

7.1 Within 30 (thirty) 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 the 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.

7.2 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 30 (thirty) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in the SCC.

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 supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organisation acting on behalf of the Department.

8.3 If there are no inspection requirements indicated in the bidding documents and no mention of such 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 supplies 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 supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.6 Supplies 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 supplies 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 supplies 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 supplies which do comply with the requirements of the contract. Failing such removal, the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies 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 23 of the 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 and 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, specified in the SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in the SCC.

10.2 Documents to be submitted by the supplier are specified in the SCC.

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 in the SCC.

12. Transportation

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

13. Incidental Services

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13.1 The supplier may be required to provide any or all of the following services, including additional services (if any) specified in the SCC:

(a) performance or supervision of on-site assembly, and/or commissioning of the supplied goods;

(b) furnishing of tools required for the 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 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 in the SCC, 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 12 (twelve) 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 18 (eighteen) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in the SCC.

15.3 The purchaser shall notify the supplier promptly, in writing, of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in the SCC 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 in the SCC, 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 in the SCC.

16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of any other obligations stipulated in the contract.

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

16.4 Payment will be made in Rand unless otherwise stipulated in the SCC.

17. Prices

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

18. Contract Amendments

18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.

19. Assignment

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 this contract 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 the 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 or her 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.

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21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.

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

21.5 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 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies 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 judgment 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 14 (fourteen) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail

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to respond within the stipulated 14 (fourteen) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer/Authority will, at the discretion of the Accounting Officer/Authority, 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 Accounting Officer/Authority, actively associated.

23.6 If a restriction is imposed, the purchaser must, within 5 (five) 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;
(iii) the period of restriction; and
(iv) the reasons for the restriction.

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, Act 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender 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 of 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. Anti-dumping 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 subsidised 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 contractor to the State, or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he or she 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 or her.

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 notify the purchaser promptly, 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.

[redacted]

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 such dispute or difference amicably, by mutual consultation.

27.2 If, after 30 (thirty) 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 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

27.5 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 to the supplier.

28. Limitation of Liability

28.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6:

(a) the 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
(b) the 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 in the SCC.

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, licence fees, and other such levies imposed outside the purchaser's country.

32.2 A local supplier shall be entirely responsible for all taxes, duties, licence 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 the Department must be in possession of a tax clearance certificate submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.

33. National Industrial Participation (NIP) Programme

33.1 The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

34 Prohibition of Restrictive practices

34.1 In terms of section 4 (1) (b) (iii) of the Competition Act, Act 89 of 1998, as amended, 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 (or bid rigging).

34.2 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 the Competition Act, Act 89 of 1998.

34.3 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 10 (ten) years and/or claim damages from the bidder(s) or contractor(s) concerned.

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PART 4: SPECIFICATIONS

13.1 INTRODUCTION AND BACKGROUND

The purpose of this tender is to solicit bids for repair and preventative maintenance services, upgrades to and replacement of equipment in the existing switching facilities as well as for antennae and mast sites that are part of the City of Cape Town's Telecommunications Infrastructure. If new City Telecoms facilities are constructed during the period of the contract, then the additional repair and maintenance services of these new facilities will be procured using the rate-based repair and maintenance services as specified in this tender. This tender does not cover the construction or supply and installation of new Telecommunications switching facilities, or antennae and mast sites, as construction and installation of new facilities and/or sites are covered in separate tender contracts. The supply of goods and materials referred to in this tender and included in the scope of his tender relates to supply for repair, upgrade, replacement and maintenance purposes.

13.2 PURPOSE OF THIS TENDER

The City of Cape Town ("the City") owns and operates a telecommunications network that is constantly being expanded and enhanced. This includes switching facilities, antennae and masts sites. Most of these City Telecoms facilities are designed to Tier 2 level of operational availability or better. This implies that switching facilities have fully redundant power, air conditioning, false floors, access control and CCTV security to support Tier 2 level of availability.

The reliance of critical services delivered through the City's telecommunication networks and facilities as well as support other government entities and commercial operators requires repair and preventative maintenance services to ensure the reliable uptime and continued services as required from Tier 2 level infrastructure and facilities. The City therefore wishes to contract with a suitably qualified company to provide repair and maintain services for the associated plant and equipment at the in-scope telecommunications facilities and sites. The tender is for the provision of monitoring, repair and maintenance services, including responding to unplanned events and operating disruptions. The contract will be for a period of up to, but no longer than, thirty-six months, spanning a time period covering no more than three financial years. The City of Cape Town financial year runs from 1st July, ending on 30th June the following calendar year.

The intent of the City of Cape Town is to appoint a contractor to do preventative and routine maintenance as well repairs to the City's Telecommunication Switching facilities as well as antennae and mast sites. The City requires the following activities to fulfil maintenance and repair work requirements:

13.2.1 The planned routine preventative and corrective maintenance of the infrastructure, plant and support equipment of each City Telecoms facility (i.e. either both switching facilities and wireless antennae and mast sites, or switching facilities and wireless antennae and mast sites separately), including licensing, inspection, cleaning, servicing, testing and refuelling as appropriate, and the routine replacement of parts and other wear-and-tear items, in accordance with the specified service schedules.

13.2.2 The procurement and replacement of defective, worn or damaged parts or components, and other repairs as may become necessary outside of the routine

preventive maintenance plan (scheduled corrective maintenance)

13.2.3 Remote monitoring of the operating status of the plant and support equipment of each City Telecoms switching facility, where possible. A dedicated Building Management System has been installed in many locations (including most switching facilities), which supports remote checks and alerts. A response team must be on stand-by to respond to any emergency and to undertake unplanned emergency repair and breakdown maintenance (as below).

13.2.4 Unplanned emergency repair, including the replacement of defective parts and materials in the event of breakdown. The Contractor is expected to hold or have prompt access to critical parts and materials to ensure that unforeseen disruptions are minimized.

13.2.5 Installation of new cabinets (for housing active equipment) to expand the capacity of existing facilities as needed (cabinets will be supplied by the City).

13.2.6 Reporting on the maintenance program, uptime performance and maintenance status of each of the listed City Telecoms facilities on a regular (monthly) basis

13.2.7 The City may appoint either a single service provider for the preventive and corrective maintenance of all facilities, or may appoint different contractors for the preventive and corrective maintenance of the switching facilities and wireless antennae and masts separately. The service provider contracted to maintain the switching facilities may also be contracted to install cabinets, supplied to them by the City, in these facilities as needed, though the City reserves the right to award this section of the tender separately. The capital equipment is already installed and operational; all materials, parts or replacement equipment purchased through this contract will remain the City of Cape Town's property throughout and beyond the contract period.

13.2.8 This tender will be of interest to established service providers experienced in the maintenance and support of data centres and telecommunications facilities (Tier 2 or better), and/or wireless antennae and masts.

13.3 SCOPE OF THIS TENDER

13.3.1 Overview

This scope covers the provision of services for preventive and corrective maintenance, upgrades to existing systems, and emergency replacement repairs of support equipment of the City of Cape Town. This equipment primarily supports power, environmental and security systems within the listed City Telecoms facilities. The systems include electrical installation, air-conditioning installation, fire detection installations, fire suppression installations, emergency power generator, uninterruptible power installation, Building Management System, security and CCTV surveillance installation, and antennae sites and mast sites (including all mountings for wireless transmission equipment).

13.3.2 Included in this tender are:

13.3.2.1 Vendor and OEM neutral requirements, and is technology specific where it applies to specific technical specifications of existing equipment in order to be able to provide

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a repair and maintenance service to current facilities and sites.

13.3.2.2 Requires that fixed priced rates be quoted for repair and maintenance services as well as specified labour, which will be fixed for a 12-month period at a time within the contract term. The rates must be specified according to the technical requirements and specification as stated in this tender document and expressed as indicated in **Error! Reference source not found.** for recurrent periods daily, fortnightly, monthly or annual etc. The contract term may not exceed 5 financial years and will therefore only equal to 60 months if the commencement date of contract falls on the start of the financial year for the City of Cape Town.

13.3.2.3 Requires that mark-up percentages are quoted for materials, parts and equipment required to provide the specified repair and maintenance services.

13.3.2.4 The specified services and rates in this tender will be applied to support and service new facilities or additional sites may be added to the City's Telecommunications network and infrastructure during the active contract term for this tender.

13.3.3 Excluded from this tender are:

13.3.3.1 The technical operation of the City Telecoms facilities, e.g. installing telecommunications equipment within cabinets; configuring or provisioning of transmission equipment; patching between cabinets and ODFs; installing wireless transmitters; monitoring the performance of the fibre infrastructure and networks that connect to the City Telecoms facilities; etc.

13.3.3.2 The day-to-day operations of the City Telecoms facilities, such as providing security, controlling access, or taking responsibility of installed telecommunications equipment

13.3.3.3 The cost of any licenses associated with any equipment or sub-systems associated with the City Telecoms facilities; the Contractor will, however, be required to track the status of these licenses and advise the City of the need to renew them well before they expire.

13.3.3.4 The construction or expansion of new switching facilities or antennae and mast sites as new build and expansion of the Telecommunications infrastructure and network is covered in other current active tender contracts.

13.4 TECHNICAL REQUIREMENTS

The technical requirements for this tender are described here as preventative and routine maintenance upgrades, including the replacement of existing faulty equipment for switching facilities or antennae and mast sites. These requirements relate to the pricing schedules in **Error! Reference source not found.** where preventative and routine maintenance and repair of switching facilities relate to **Error! Reference source not found. Error! Reference source not found.** and preventative and routine maintenance upgrades, and replacement-repair of antennae and mast sites relate to **Error! Reference source not found. Error! Reference source not found.**

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13.4.1 PREVENTIVE MAINTENANCE, UPGRADES AND REPLACEMENT RATES FOR TELECOMMUNICATION SWITCHING FACILITIES

The scope of this tender applies to the City of Cape Town Telecommunication facilities, which are located in various areas that fall under the City of Cape Town Municipality and are managed and operated by the City of Cape Town Telecommunications (Telecoms) branch.

Category 1A CORE Switching Facility – Large – constructed at FULL design (refer Error! Reference source not found.**)**

a) The Switching Facility was designed with Tier III parameters
b) The Large Category 1 Switching Facility can accommodate between 32 and 60 cabinets.
c) Switching Facility hardware load provision: 90 – 220 kW
d) DX CRAC HVAC load calculation: 100 – 250kW
e) Electrical load: 160 – 335 kW
f) UPS rating: 180 – 300 kW
g) Generator rating: 220 – 400kW
h) DC Rectifier rating: 69kW 48V DC with redundant VLRA 615 Battery banks of 34kW DC each.
i) Fire Protection system:
   - Primary - Intelligent point sensors controlled by the Fire control panel
   - Secondary – Vesda active aspirating detection system, connected to the primary system.
j) Fire suppression system: Water mist suppression with pumps and storage tanks.
k) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
l) BMS active monitoring systems monitored separately and independently in the control room includes:
   - Active Fire point detection system
   - Active Aspirating Fire detection system
   - Access control system
   - Digital HD Closed Circuit Television system
   - HVAC Building management system
   - UPS / Rectifier Systems
   - Generator Systems
   - LV Distribution Metering
   - Seismic, infrared and movement detection monitoring
   - Sump Pumps and flooding controls

During the period of the contract, Telecoms expects to deploy a number a smaller switching facilities or housed in customized containers expand existing facilities. These additions or expansion may be associated with new masts. The new containerized switching facilities is expected to include:

- Power supply for up to 14 cabinets
- 20kW UPS and batteries
- Computer Room Air Conditioning units with condensers
- Fire detection and suppression systems
- Security and access control systems
- Building Management System

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Category 1B Switching Facility – Large – constructed at N+1 design (refer Error! Reference source not found.**)**

a) The Switching Facility was designed with Tier III parameters
b) The Large Category 1 Switching Facility can accommodate between 32 and 60 cabinets.
c) Switching Facility hardware load provision: 90 – 220 kW
d) DX CRAC HVAC load calculation: 100 – 200kW
e) Electrical load: 160 – 320 kW
f) UPS rating: 120 – 200 kW
g) Generator rating: 220 – 500kW
h) Fire Protection system:
   - Primary - Intelligent point sensors controlled by the Fire control panel
   - Secondary – Vesda active aspirating detection system, connected to the primary system.
i) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
j) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
k) BMS active monitoring systems monitored separately and independently in the control room includes:
   - Active Fire point detection system
   - Active Aspirating Fire detection system
   - Access control system
   - Digital HD Closed Circuit Television system
   - HVAC Building management system
   - UPS / Rectifier Systems
   - Generator Systems
   - LV Distribution Metering
   - Seismic, infrared and movement detection monitoring
   - Sump Pumps and flooding controls

Category 2 Switching Facility – Medium – constructed at N+1 design (refer Error! Reference source not found.**)**

a) The Switching Facility was designed with Tier III parameters
b) The Medium Category 2 Switching Facility can accommodate between 15 and 31 cabinets.
c) Switching Facility hardware load provision: 60 – 120 kW
d) DX CRAC HVAC load calculation: 40 – 80kW
e) Electrical load: 100 – 180 kW
f) UPS rating: 80 – 120 kW
g) Generator rating: 80 – 200kW
h) Fire Protection system:
   - Primary - Intelligent point sensors controlled by the Fire control panel
   - Secondary – Vesda active aspirating detection system, connected to the primary system.
i) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
j) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
k) BMS active monitoring systems monitored separately and independently in the control room includes:

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- Active Fire point detection system
- Active Aspirating Fire detection system
- Access control system
- Digital HD Closed Circuit Television system
- HVAC Building management system
- UPS / Rectifier Systems
- Generator Systems
- LV Distribution Metering
- Seismic, infrared and movement detection monitoring
- Sump Pumps and flooding controls

Category 3 Switching Centre Facility – Small – constructed at N+1 design (refer Error! Reference source not found.**)**

a) The Switching Facility was designed with Tier III parameters
b) The Small Category 3 Switching Facility can accommodate between 6 and 14 cabinets.
c) Switching Facility hardware load provision: 40 – 50 kW
d) DX CRAC HVAC load calculation: 40 – 60kW
e) Electrical load: 80 – 110 kW
f) UPS rating: 60 – 120 kW
g) Generator rating: 80 – 160kW
h) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
i) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
j) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
k) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system
    - Access control system
    - Digital HD Closed Circuit Television system
    - HVAC Building management system
    - UPS / Rectifier Systems
    - Generator Systems
    - LV Distribution Metering
    - Seismic, infrared and movement detection monitoring
    - Sump Pumps and flooding controls

Category 4 Switching Node Facility – Small Node – constructed at N+1 design (refer Error! Reference source not found.**)**

a) The Switching Facility was designed with Tier III parameters
b) The Small Category 4 Switching Facility can accommodate between 3 and 5 cabinets.
c) Switching Facility hardware load provision: 10 – 30 kW
d) DX CRAC HVAC load calculation: 10 – 20kW
e) Electrical load: 15 – 30 kW
f) UPS rating: 10 – 20 kW
g) Generator rating: 80 – 160kW

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h) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
i) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
j) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
k) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system
    - Access control system
    - Digital HD Closed Circuit Television system
    - HVAC Building management system
    - UPS / Rectifier Systems
    - Generator Systems
    - LV Distribution Metering
    - Seismic, infrared and movement detection monitoring
    - Sump Pumps and flooding controls

Category 5A Node room or Box Facility – Node Room or Box – constructed at N design (refer Error! Reference source not found.)

a) The Switching Facility was designed with Tier II parameters
b) The Small Category 5 Switching Facility can accommodate between 1 and 4 cabinets.
c) Node Facility hardware load provision: 5 – 15 kW
d) HVAC load calculation: 5 – 10kW
e) Electrical load: 5 – 20 kW
f) UPS rating: 1 – 10 kW
g) Generator rating: 10 – 20kW
h) Fire Protection system:
    - Primary – Smoke detector
i) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
j) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Access control system
    - Digital HD Closed Circuit Television system
    - UPS Systems
    - Generator Systems

Category 5B Node room or Box Facility – Node Room or Box – constructed at N design (refer Error! Reference source not found.)

a) The Switching Facility was designed with Tier I parameters
b) The Small Category 5 Switching Facility can accommodate between 1 and 4 cabinets.
c) Node Facility hardware load provision: 1 – 10 kW
d) HVAC load calculation: 1 – 10kW
e) Electrical load: 1 – 10 kW

[redacted]

f) UPS rating: 1 – 10 kW
g) Fire Protection system:
    - Primary – Smoke detector
h) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Digital HD Closed Circuit Television system
    - UPS Systems
    - Fire Detection

The existing Telecommunications Switching facilities, for which repair and maintenance services are required through this tender, include the following:

	List of Switching facilities Sites
1.	Athlone Stadium Switching facility
2.	Atlantis Fire Station Switching facility
3.	Aurora Switching facility
4.	Bellville Civic Centre Switching facility
5.	Brackenfell Fire Station Switching facility
6.	Cape Town Civic Centre Switching facility
7.	Contantiaberg Switching facility
8.	Delft South Depot Switching facility
9.	Durbanville Fire Station Switching facility
10.	Epping Fire Station Switching facility
11.	Durbanville Switching facility
12.	Gugulethu Fire Station Switching facility
13.	Goodwood Fire Station Switching facility
14.	Water City Switching facility
15.	Harare Library Switching facility
16.	Hillstar Switching facility
17.	Kuilsriver Fire Station Switching facility
18.	Kuyasa Switching facility
19.	Lakeside Fire Station Switching facility
20.	Mitchells Plain Town Centre Switching facility
21.	Nyanga Switching facility
22.	Ottery Fire Station Switching facility

[redacted]

23. Parow Switching facility
24. Plumstead Switching facility
25. Salt River Fire Station Switching facility
26. Simonsberg Switching facility
27. Somerset West Switching facility
28. Strand Switching facility
29. Tygerberg Hills Switching facility
30. Lookout Hill Switching facility
31. Mowbray Switching facility

The specified services and rates in this tender will be applied to support and service new facilities or sites that may be added to the City's Telecommunications network and infrastructure during the active contract term for this tender.

The following preventative, routine maintenance, and replacement and repair work, is required to maintain the existing Telecommunications Switching facilities of the City of Cape Town. The service requirements are identified at a modular level as seen by the City as the basic components which make up a switching facility, these include:

- electrical installations,
- air conditioning systems,
- fire detection and suppression systems,
- UPS and rectifier DC systems,
- generators,
- building management systems (BMS),
- security and surveillance systems,
- access control systems
- and checks on building and facility fabric.

13.4.1.1 Preventative Maintenance Services for Electrical Installations

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY - via the Building Management Systems (BMS)	
	Be available to client for support
FORTNIGHTLY	
	Visually inspect the installation
	Check power and alarms
	Check and note loading via installed meters

[redacted]

	Check all systems are energised at distribution boards
	Check condition of distribution boards and ensure labelling / legends are intact
	Check visible outlets are not damaged
	Check main earth cables are present and connected
	Check lighting is fully functional
	Check all necessary equipment is powered up
	Check outside lights with bypass switch
	Check outside lights with photocell operation
MONTHLY	
	Test mains failure at source with generator (30-minute minimum.)
	Check UPS and all plant function correctly on standby power
	Check changeover gear mechanical operation – shut down HVAC to hear changeover
	Ensure generator operation is okay, temperature, oil pressure, frequency, voltage, noise, vibration load balance, load acceptance, etc.
	Check generator load okay and record
	Check BMS response to test activities
QUARTERLY	
	Check all distribution boards internally, check connections, earthing, damage, overheating etc.
	Check cover plates and doors of boards are secure
	Check circuit loading and earth leakage device operation
	Inspect outlets under floor
	Check all major plant connections at the destination end
	Check cabinet distribution is correct as per load allocation
ANNUALLY	
	Undertake infrared survey of UPS and Generator and remedy any out of tolerance conditions
	Undertake infrared survey of distribution boards and remedy any out of tolerance conditions
	Clean out all distribution boards
	Map out and record all circuit currents and check load distribution (on drawing and legend)
	Perform full load testing with load banks connected to output of the UPS.*
	Note Cabinet and room layout with circuit numbers (update drawing with actual installed Existing breakers which can be switched off and back on without impact on equipment)

[redacted]

13.4.1.2 Preventative Maintenance Services for Air Conditioning Systems

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY - via the Building Management Systems (BMS)	
	Be available to client for support
FORTNIGHTLY	
	Check operation of each Air Handling Unit (AHU)
	Check unit displays for alarms
	Check all room conditions (temperature and humidity)
	Set and check clip on HVAC grills (11 and 13 Containers, update grill drawings and ensure records are kept up to date of all facilities.)
MONTHLY	
	Record all AHU readings for monthly reporting and trending
	Check and record gas charges
	Check all fan operations
	Check and clean condensers
	Check AHU settings are correct
	Check shutdown and start up after power down tests
	Check for gas and water leaks on all units
	Check condensate piping and drainage
	Cycle between primary and redundant units to test full operational requirements
	Check and record temperature settings (21 degree) for UPS room and (23 degree) for white space
QUARTERLY	
	Blow clean all filters
	Minor service recommended by OEM
	Inspect under floor installation thoroughly for leaks (dirt accumulation, etc.)
	Perform ventilation test to balance flow and loading
ANNUALLY	
	Wash clean all filters and thoroughly wash down all condensers
	Check controller operation and settings
	Check operation of electric heater elements and humidifier
	Check compressor operation
	Check all piping and insulation
	Check all electrical connections to all AHU
	Major service recommended by OEM

[redacted]

	Perform Infrared scan to evaluate and minimize/reduce hotspots.

13.4.1.3 Preventative Maintenance Services for Fire Detection Systems

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY (via BMS)	
	Be available to client for support
FORTNIGHTLY	
	Physically inspect Fire and VESDA panels
	Check displays and compare with BMS
	Ensure VESDA sampling tubes are intact and clear of obstruction
	Check that all detectors are unobstructed and not influenced by high air flow
MONTHLY	
	Test VESDA and check BMS reporting and SMS notification
	Notify Fire Brigade and test at least one detector. Check sounders, panel response, SMS notification, BMS response and REMRAD link and alarm received by Fire Brigade
EVERY SIX MONTHS	
	Inspect detectors and devices for damage and correct labelling
	Notify Fire Brigade and test all detectors. Check sounders, panel response, SMS notification,
	BMS response and REMRAD link and alarm received by Fire Brigade
	Verify that detector numbered addressing corresponds to BMS maps
	Fail power check response on battery and test battery
	Check VESDA fans
	Replace VESDA filters
ANNUALLY	
	Back blow VESDA tubes to clear all sampling orifices
	Perform deep clean

13.4.1.4 Preventative Maintenance Services for Fire Suppression Systems

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY (via BMS)	
	Be available for client support
FORTNIGHTLY	

[redacted]

	Check system is ready to operate
	Physically inspect and check pumps and pipe connections for leaks
	Check panels and installation is in order
	Check water levels in storage tanks
	Check mains water connection active
	Check pressure on gauges of cylinders
	Check all hand held extinguisher units are in place ready for use
	Clean fire pumps
	Check for alarms and actions
MONTHLY	
	Run compressor and check
	Check compressed air moisture content clean filters and traps
EVERY SIX MONTHS	
	Check all filters are serviceable
	Test discharge signal with fire alarm system and record time to discharge
	Perform release test observe pressurisation pump and compressor operation
	Ensure outlet nozzles are not obstructed
	Check labels and warning notices
	Inspect all nozzles for damage
	Check water quality
	Perform full functional test with actuators removed, submit all test results and capture conditions.
ANNUALLY	
	Inspect all pipe work and outlet nozzles
	Check turbines in the nozzles and lubricate nozzles with approved lubricant
	Replace sticking nozzles
	Test source water pressure and flow
	Drain water tank and refill with filtered water after tank inspection cleaning and sterilising
	Inspect tank for corrosion, contamination lease and algae deposits
	Inspect and clean all filters and strainers
	Test control valves
	Test compressor capacity
	Perform business continuity test on all systems, submit all test results and capture conditions.

13.4.1.5 Preventative Maintenance Services for UPS and Rectifier DC Systems

The following periodic preventative maintenance services are deemed included as described

[redacted]

in the following activity list:

DAILY (via BMS)	
	Be available for client support
FORTNIGHTLY	
	Physically inspect UPS's internally and check power and control cables, battery bank and connections
	Check displays, alarms and event log
	Check air flow paths are unrestricted and cooling is adequate and fans are running
	Interrogate control panel check load, voltage, frequency, load sharing, battery status currents and phase balance
	Check battery charging, submit all test results and capture conditions.
MONTHLY	
	Run generator, ensure stability and test manual bypass without risk to load
	Check UPS transfer to battery and back to rectifier during generator mains failure test
	Check out of synchronism alarms to ensure consistent correct running on generator report and act on discrepancies
	Determine all events logged accurately and BMS alarms and monitoring correspond
	Check all instrumentation calibration and settings and signalling, submit all test results and capture conditions.
	Ensure records and installation dates are kept up to date and displayed
EVERY SIX MONTHS	
	Clean filters
	Perform extended battery discharge test for at least half of rated back up time plotting discharge rate to load %, extrapolate back up time at full load and compare to specification
	Carefully observe battery discharge rate during test, restore mains to prevent unexpected shut down due to unexpected rate of discharge
	Test bypass without risk to load
	Fail and restore UPS, check load transfer to parallel unit and return to normal operation
	Blow out UPS and cooling stacks
	Check battery block voltages
	Check all PCB's for problems
	Perform infrared scans to identify hotspots and problem areas.
	Perform pre-commissioning test as per OEM commissioning test, submit all test results and capture conditions.
ANNUALLY	
	Perform business continuity test by shutting down Mains to Rectifier, submit all test results and capture conditions.
	Perform business continuity test by disconnecting the redundant battery banks separately of

[redacted]

	the rectifier, submit all test results and capture conditions.
	Perform business continuity test by shutting down UPS A & B respectively, submit all test results and capture conditions.
	Perform full load testing with load banks connected to output of the UPS. (Heat bank inside White space to simulate load conditions)
	Simulate all test conditions, submit all test results and capture conditions.

13.4.1.6 Preventative Maintenance Services for Generators

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY (via BMS)	
	Be available for client support
FORTNIGHTLY	
	Check log of power failures and corresponding generator runs
	Physically inspect the unit internally and externally
	Check unit displays and event log
	Compare displays with BMS record
	Check air flow paths are unrestricted
	Check plant selection is auto and emergency stop clear
MONTHLY	
	Check fuel level
	Check battery water and charge level
	Check and test battery charger.
	Check radiator water level and top up with correct water/coolant mixture
	Check oil level and condition
	Check signs of water, oil or fuel leaks
	Check hoses for perishing and leaks
	Check belts
	Check electrical connections
	Check canopy and locks in good order
	Check running hours elapsed to ensure service intervals meet manufacturers recommendation on hour intervals to major and minor services greater than quarterly or annually

[redacted]

	Conduct mains failure test running for at least 30 minutes or more time to reach full operating temperature (80 to 90 degrees C) whichever is the longer. Observe start up and cool down times, submit all test results and capture conditions.
	Check BMS reporting, submit all test results and capture conditions.
	Return set to automatic operation
	Check environment in and around plant is clean and clear
QUARTERLY	
	Minor service recommended by OEM
	Clean inside generator housing
	Check all pipe clamps
	Wipe and clean fuel tank of any spillage
	Check and test heat pump on block and report on temperature.
	Check silencer and exhaust components for corrosion
	Populate and update Generator records, alternator records and spare parts list.
	Check attenuating materials and report back
ANNUALLY	
	Major service recommended by OEM
	Steam clean radiator
	Include oil and oil filter change / depending on running hours
	Replace belts
	Include fuel filter change / purification.
	Drain coolant and replace installing coolant and corrosion inhibitors every year.
	Perform infrared scans to identify hotspots and problem areas.
	Perform full load test with load bank running plant for at least 30 minutes at 100% load, submit all test results and capture conditions.
	Fuel filtering, servicing of tank and replacement of filters (empty tank and clean any residue)

13.4.1.7 Preventative Maintenance Services for Building Management System

The following periodic preventative maintenance services are deemed included as described in the following activity list:

[redacted]

DAILY (via BMS)	
	Be available for client support
FORTNIGHTLY	
	Check system is operational
	Check hardware is in working order and securely fixed and labelled
	Check integration with other systems
	Check for alarms and actions
	Check BMS hardware installation and inter cabling of system components at the core device points
QUARTERLY	
	Trigger and Test all alarms
	Confirm reporting and logging of all alarms and alarms generated during test, submit all test results and capture conditions.
	Confirm system configuration information
	Verify configuration is current and to design specification
	Check contact details on BMS are current (particularly call out personnel)
	Populate and keep BMS, OSS system configuration, Schematics and Straight line drawings up to date.
	Populate hard and soft copies of system design Schematics, submit all test results and capture conditions.
EVERY SIX MONTHS	
	Perform system backup on all workstations and servers, submit all test results and capture conditions.
	Perform operating system checks, optimize and adjust settings to improve functionality
	Print and update laminated schematics for dated information in switching facilities.
ANNUALLY	
	Confirm software currency and license agreement
	Perform business continuity test on all systems, submit all test results and capture conditions.

[redacted]

13.4.1.8 Preventative Maintenance Services for Security and Surveillance System

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY (via BMS)	
	Be available for client support
FORTNIGHTLY	
	Check hardware is in working order, securely fixed and labelled
	Check integration with BMS
	Check system is operational
	Check for alarms and actions
	Check focus of all cameras
MONTHLY	
	Check and clean all electro mechanical equipment
	Clean all indoor and outdoor cameras
	Verify system set up monitoring and reporting
	Tidy all cabinets and check labelling
	Check all connections are secure
	Back up client's database and supply a disc to be left on site
	Align all camera target areas
EVERY SIX MONTHS	
	Perform system backup on all workstations and servers
ANNUALLY	
	Check software upgrades and licensing
	Interrogate system to ensure operation to specification / hardware inspection at the TOC

13.4.1.9 Preventative Maintenance Services for Access Control System

The following periodic preventative maintenance services are deemed included as described in the following activity list:

DAILY (via BMS)

[redacted]

	Be available for client support
FORTNIGHTLY	
	Check hardware is in working order, securely fixed and labelled
	Check integration with BMS
	Check system is operational
	Check for alarms and action
MONTHLY	
	Clean all indoor and outdoor bio-metric and card readers
	Check electronic and magnetic locks are secure and fit for purpose
	Tidy access control cabinets check labelling intact
	Back up client's database and supply a disc to be left on site
	Clean bio-metric box / insects
EVERY SIX MONTHS	
	Perform system backup on all workstations and servers
ANNUALLY	
	Check cabling
	Verify labelling in control panels and on devices
	Check software upgrades and licensing

13.4.1.10Preventative Maintenance Services on Building Condition and Facility Fabric

The following periodic preventative maintenance services are deemed included as described in the following activity list:

FORTNIGHTLY	
	Check door handles and locks
	Check all mag locks and cover plates, align and adjust.
	Check floors and ceilings
	Check plumbing and drainage
	Check site is secure
	Prepare maintenance schedules, manage inspections and reporting

[redacted]

	Check all key's and replace if missing, ensure key legend and individual name tags
	Check and clean SC facility
MONTHLY	
	Check walls and floors for cracks and damage
	Check for damaged floor and ceiling tiles
	Check floor grille layouts are co-ordinated with cooling air flow requirements to equipment
	Check and report on site and server area cleanliness
	Meet and report to client
	Check full operation of sump pumps
	Vacuum all areas above false floor in Switching Facilities
	Inspect and test operation of forced air and ventilation fans
QUARTERLY	
	Check gutters and roofs for leaks
	Check and clean all downpipes
	Check and report on paint work
	Clean inside ceilings
	Lubrication of all locks
	Vacuum beneath false floor
	Check and report on all warning signs
	Clean awnings
ANNUALLY	
	Check condition of ceiling voids and floor voids
	Report to client and prepare schedules for following years maintenance
	Perform deep clean

13.4.2 Materials, Parts and Equipment

In order to deliver the preventative maintenance services as defined in **Error! Reference source not found.** Tenderers will need to supply the materials, parts and equipment associated with the switching centre facilities. The City has categorised their switching facilities as determined by the size, configuration, redundancy and services required from a facility.

The categories are:

[redacted]

- Category 1A CORE Switching Facility – Large – constructed at FULL design
- Category 1B Switching Facility – Large – constructed at N+1 design
- Category 2 Switching Facility – Medium – constructed at N+1 design
- Category 3 Switching Centre Facility – Small – constructed at N+1 design
- Category 4 Switching Node Facility – Small Node – constructed at N+1 design
- Category 5A Node room or Box Facility – Node Room or Box – constructed at N design
- Category 5B Node room or Box Facility – Node Room or Box – constructed at N design

The detail specifications and technical requirements for each facility the supplied materials, parts and equipment must adhere to are as follows:

13.4.2.1 Category 1A CORE Switching Facility – Large – constructed at FULL design

m) The Switching Facility was designed with Tier III parameters
n) The Large Category 1 Switching Facility can accommodate between 32 and 60 cabinets.
o) Switching Facility hardware load provision: 90 – 220 kW
p) DX CRAC HVAC load calculation: 100 – 250kW
q) Electrical load: 160 – 335 kW
r) UPS rating: 180 – 300 kW
s) Generator rating: 220 – 400kW
t) DC Rectifier rating: 69kW 48V DC with redundant VLRA 615 Battery banks of 34kW DC each.
u) Fire Protection system:
   - Primary - Intelligent point sensors controlled by the Fire control panel
   - Secondary – Vesda active aspirating detection system, connected to the primary system.
v) Fire suppression system: Water mist suppression with pumps and storage tanks.
w) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
x) BMS active monitoring systems monitored separately and independently in the control room includes:
   - Active Fire point detection system
   - Active Aspirating Fire detection system
   - Access control system
   - Digital HD Closed Circuit Television system
   - HVAC Building management system
   - UPS / Rectifier Systems
   - Generator Systems
   - LV Distribution Metering
   - Seismic, infrared and movement detection monitoring
   - Sump Pumps and flooding controls

13.4.2.2 Category 1B Switching Facility – Large – constructed at N+1 design

l) The Switching Facility was designed with Tier III parameters
m) The Large Category 1 Switching Facility can accommodate between 32 and 60 cabinets.
n) Switching Facility hardware load provision: 90 – 220 kW
o) DX CRAC HVAC load calculation: 100 – 200kW

[redacted]

p) Electrical load: 160 – 320 kW
q) UPS rating: 120 – 200 kW
r) Generator rating: 220 – 350kW
s) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
t) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
u) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
v) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system
    - Access control system
    - Digital HD Closed Circuit Television system
    - HVAC Building management system
    - UPS / Rectifier Systems
    - Generator Systems
    - LV Distribution Metering
    - Seismic, infrared and movement detection monitoring
    - Sump Pumps and flooding controls

13.4.2.3 Category 2 Switching Facility – Medium – constructed at N+1 design

l) The Switching Facility was designed with Tier III parameters
m) The Medium Category 2 Switching Facility can accommodate between 15 and 31 cabinets.
n) Switching Facility hardware load provision: 60 – 120 kW
o) DX CRAC HVAC load calculation: 40 – 80kW
p) Electrical load: 100 – 180 kW
q) UPS rating: 80 – 120 kW
r) Generator rating: 80 – 160kW
s) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
t) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
u) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
v) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system
    - Access control system
    - Digital HD Closed Circuit Television system
    - HVAC Building management system
    - UPS / Rectifier Systems
    - Generator Systems
    - LV Distribution Metering

[redacted]

- Seismic, infrared and movement detection monitoring
- Sump Pumps and flooding controls

13.4.2.4 Category 3 Switching Centre Facility – Small – constructed at N+1 design

l) The Switching Facility was designed with Tier III parameters
m) The Small Category 3 Switching Facility can accommodate between 6 and 14 cabinets.
n) Switching Facility hardware load provision: 40 – 50 kW
o) DX CRAC HVAC load calculation: 40 – 60kW
p) Electrical load: 80 – 110 kW
q) UPS rating: 60 – 80 kW
r) Generator rating: 80 – 160kW
s) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
t) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
u) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
v) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system
    - Access control system
    - Digital HD Closed Circuit Television system
    - HVAC Building management system
    - UPS / Rectifier Systems
    - Generator Systems
    - LV Distribution Metering
    - Seismic, infrared and movement detection monitoring
    - Sump Pumps and flooding controls

13.4.2.5 Category 4 Switching Node Facility – Small Node – constructed at N+1 design

l) The Switching Facility was designed with Tier III parameters
m) The Small Category 4 Switching Facility can accommodate between 3 and 5 cabinets.
n) Switching Facility hardware load provision: 10 – 30 kW
o) DX CRAC HVAC load calculation: 10 – 20kW
p) Electrical load: 15 – 30 kW
q) UPS rating: 10 – 20 kW
r) Generator rating: 80 – 160kW
s) Fire Protection system:
    - Primary - Intelligent point sensors controlled by the Fire control panel
    - Secondary – Vesda active aspirating detection system, connected to the primary system.
t) Fire suppression system: Gas suppression system – Novac 1230 (or equivalent).
u) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
v) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Active Fire point detection system
    - Active Aspirating Fire detection system

[redacted]

- Access control system
- Digital HD Closed Circuit Television system
- HVAC Building management system
- UPS / Rectifier Systems
- Generator Systems
- LV Distribution Metering
- Seismic, infrared and movement detection monitoring
- Sump Pumps and flooding controls

13.4.2.6 Category 5A Node room or Box Facility – Node Room or Box – constructed at N design

k) The Switching Facility was designed with Tier II parameters
l) The Small Category 5 Switching Facility can accommodate between 1 and 4 cabinets.
m) Node Facility hardware load provision: 5 – 15 kW
n) HVAC load calculation: 5 – 10kW
o) Electrical load: 5 – 20 kW
p) UPS rating: 1 – 10 kW
q) Generator rating: 10 – 20kW
r) Fire Protection system:
    - Primary – Smoke detector
s) BMS Monitoring and Controls: Centralized BMS system with BMS marshalling cabinet for real-time monitoring.
t) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Access control system
    - Digital HD Closed Circuit Television system
    - UPS Systems
    - Generator Systems

13.4.2.7 Category 5B Node room or Box Facility – Node Room or Box – constructed at N design

i) The Switching Facility was designed with Tier I parameters
j) The Small Category 5 Switching Facility can accommodate between 1 and 4 cabinets.
k) Node Facility hardware load provision: 1 – 10 kW
l) HVAC load calculation: 1 – 10kW
m) Electrical load: 1 – 10 kW
n) UPS rating: 1 – 10 kW
o) Fire Protection system:
    - Primary – Smoke detector
p) BMS active monitoring systems monitored separately and independently in the control room includes:
    - Digital HD Closed Circuit Television system
    - UPS Systems

13.4.2.8 OEM License Fees, Support, Upgrades, Skill transfer, Training and Maintenance

The successful Tenderer must also supply software licenses as well as provide specific training, support and maintenance services for the associated Telecoms switching facilities. Please refer to **Error! Reference source not found. Error! Reference source not found.** for detailed items list.

13.4.3 ANTENNAE AND MAST SITES

[redacted]

1. Below is a list of the antennae and mast sites. Note this is not a complete list:
2.

List of Antennae and Mast Sites	
32. Abattoir, Maitland	33. Alphen Centre
34. Athlone Stadium	35. Atlantis Fire Station
36. Atlantis Reservoir	37. Aurora
38. Belhar Fire Station	39. Bellville Civic Centre
40. Blackheath Reservoir	41. Blackheath Water Treatment Plant
42. Blomtuin Depot	43. Blue Downs
44. Bonteheuwel Housing Office	45. Brackenfell Fire Station
46. Brackenfell Civic Centre	47. Brooklands Water Treatment Plant
48. Brooklyn Fire Station	49. Browns Farm
50. Cape Flats Stores	51. Cape Flats Water Treatment Plant
52. Cape Town Civic Centre	53. Chrismar Sports Complex
54. Coastal Landfill	55. Constantia Fire Station
56. Contantiaberg	57. Delft South Clinic
58. Delft South Depot	59. Delft South Library
60. Durbanville Fire Station	61. Durbanville Administration building
62. Durbanville Traffic Department	63. Edgemead Library
64. Eerste River Clinic	65. Eerste Steen Nature
66. Eisleben Road	67. Elsies River Housing Office
68. Epping Fire Station	69. Eyethu MPC
70. Faure Water Treatment Plant	71. Fisantekraal Library
72. Fish Hoek Fire Station	73. Glen Garry
74. Goodwood Administration building	75. Goodwood Fire Station
76. Goodwood Library	77. Goodwood Socony Road
78. Gordons Bay Clinic	79. Gordons Bay Fire Station
80. 42. Gordons Bay Traffic department	81. Gordons Bay Water Treatment Plant
82. Gugulethu Fire Station	83. Gugulethu Fizaka Administration building
84. Haardekraaltjie	85. Hanskop
86. Harare Library	87. Harmony Park

88. Hillstar campus	89. Kendal Road Depot
90. Khayelitsha Fire Station	91. Klipfontein
92. Klipfontein Roads department building	93. Kraaifontein Administration building
94. Kraaifontein Water Treatment Plant	95. Kromme Rhee
96. Kuilsriver Administration building	97. Kulani Resource Centre
98. Kuyasa Male Clinic	99. Kuyasa Clinic
100. Lakeside Fire Station	101. Langeberg Depot
102. Lansdowne Road Fire Station	103. Lansdowne Softball Club Turf Hall
104. Ledger House	105. Leeuenhof Residence
106. Lentegeur Administration building	107. Lotus River Sports Complex
108. Luvuyo Clinic	109. Macassar Fire Station
110. Manenberg Housing office	111. Matthew Goniwe
112. Mayenzeke Clinic	113. Melkbos Fire Station
114. Melkbos Pump Station	115. Melton Rose Depot
116. Metlon Rose Library	117. Mfuleni Fire Station
118. Michells Plain Roads Depot	119. Mitchells Plain Fire Station
120. Morganster Parks offices	121. Muisenberg Electricity
122. Ndabeni Library	123. Nooiensfontein
124. Nyanga Switching Centre	125. Observatory Training facility
126. Omniforum	127. Ottery Fire Station
128. Ottery Reference Library	129. Parow Administration building
130. Parow Park	131. Parow Traffic
132. Parow Valley IT.	133. Phillippi City Police
134. Phillippi Maintenance Depot	135. Pinelands Training facility
136. Pinelands Water Treatment Plant	137. Plattekloof Reservoir
138. Plumstead Administration building	139. Potsdam
140. Rietvlei	141. Salt River Fire Station
142. Schaapkraal Depot	143. Scotsdene Cash Office
144. Simonsberg	145. Simonstown Fire Station
146. Somerset West Administration building	147. Southfield Road Depot
148. Steenbras Catchment	149. Steenbras Electricity

[redacted]

150. Steenbras Water Treatment Plant	151. Stocks and Stocks building, Khayelitsha
152. Strand Administration building	153. Strand Fire Station
154. Swartklip Transfer Station	155. Town 2 Clinic
156. Trafalgar Park	157. Tygerberg Hills
158. Vaalfontein Depot	159. Vissershok
160. Voëlvlei Water Treatment Plant	161. Walacedene Clinic
162. Weltevreden Clinic	163. Weltevreden Library
164. Wemmershoek	165. Westridge Housing offices
166. Woodstock Solid Waste department	167. Wynberg Fire Station

3.

4. Additional similar City Telecoms facilities may be added to this schedule by mutual agreement; in which case the equivalent scope of work and service standards shall apply.

5.

6. These City Telecoms facilities shall be maintained so as to ensure that all equipment located within the centres shall remain fully operational at all times.

7.

8. The facilities' equipment and sub-systems have all been installed as new. Switching facilities are less than 5 years old and considered to be best of breed appropriate for the purpose for which it is was designed. The installations have all been tested and subjected to thorough quality control.

9.

10. It is incumbent on the Contractor to take all steps necessary in order to eliminate risk to the City Telecoms' facilities continued operation, by the application of appropriate routine and preventative measures and monitoring all the services for deviance from acceptable operating criteria and taking appropriate corrective actions to prevent any interruption to services.

11.

12.

13.4.3.1 Reference documents

13.

14. The latest approved revisions of the following documents apply:

15. All installations and work will comply with the latest amendment of the following standards, codes and statutory requirements, stipulations, regulations and provisions and all maintenance and workmanship shall be carried out in accordance with the relevant safety procedures:

16.

- Environmental Conservation Act No. 73 of 1989
- The Occupational Health and Safety Act, Act No 85 of 1993
- The SABS Code of Practice for the Wiring of Premises, SANS 10142-1
- Municipal by-laws and Local Governing Body
- Local Fire-Brigade Regulations
- National Building Regulations SANS 10400
- All applicable SANS specifications, or Building specifications where no SANS

[redacted]

specifications exist

- Plan and equipment manufacturer's maintenance specifications
- The as-built record and maintenance manuals for each centre

17.

13.4.3.2 Equipment to Be Maintained

18.

19. The following broadly defined categories of plant and equipment are to be maintained, as installed and appropriate:

- Electrical switchboard and power distribution, including Power Distribution Units (PDU)
- Lighting and electrical installations
- The computer room air conditioning down blow units (CRAC) and associated condensers
- Fresh air and exhaust air systems
- UPS split air conditioning units
- Other heating, ventilation and air conditioners units including fans and extractors
- Smoke detection and fire alarm installation
- Fire suppression systems
- Uninterruptable Power Supply (UPS) installations including the batteries
- Emergency generators and related equipment
- Access control systems
- CCTV surveillance systems
- Building Management Systems (BMS)
- Cabinets
- Towers and poles
- Antennae mountings
- Maintenance of free standing towers
- Antennae and mast fields (surrounding environment, including access roads, perimeter fencing, gates, doors, and signage)
- Tower cable feeders and entries
- Aircraft warning lights
- Antennae and mast electrical plant

20.

21. The categories of equipment specified includes all associated equipment and accessories necessary for the complete and correct functioning of each installation and the whole system to be fit for the purpose it is intended. The facilities are divided into seven categories, and each category is characterized by the number of racks it has:

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22.
The schedules below indicate the examples of equipment for each category plant at each City Telecoms facility to inform the prospective Contractor to complete his offer and anticipate the scope of the work accurately.

13.4.4 Requirements for Preventive Maintenance of Towers, Masts and Mounting Structures

The maintenance work described in **ANNEXURE A: Radio High Site Maintenance Procedure Manual** is divided into nine (9) categories or types namely:

23. A. Tower Maintenance (Various types and heights)
24. B. Full Field and Electrical Maintenance
25. C. Minor Field Maintenance
26. D. Rooftop Maintenance
27. E. Non-Client Owned Shared (other) sites
28. F. Static/Mobile on site generator and BTS maintenance
29. G. Tower Audits.
30. H. Ad Hoc
31. I. *(Intentionally skipped)*
32. J. Electrical Maintenance
33. K. Share Party Container and RF Maintenance
34. L. Share Party Electrical Maintenance

M. Share Party Building Sites

There are primarily three (3) kinds of sites namely:

1. Greenfield sites owned by Client;
2. Rooftops;
3. Other sites, including shared sites with Vodacom, Cell C, Telkom Mobile, Sentech etc.

The Greenfield and "other" sites could be rural or urban sites. Rooftops are generally located in built-up urban areas but also occasionally occur on Silo roofs in rural areas.
There are various types of towers namely, lattice (tubular and angular), steel hollow monopoles, concrete monopoles, & enviro (tree) towers, steel encased concrete, etc., as well as stub masts on rooftops.

AD Hoc projects are described in H. The Contractor would be required to quote separately for each of these projects and will be issued with a separate purchase order and issued with a works authorization once the quote has been approved.

13.4.4.1 Maintenance Tasks

35.
The scope of work for each Maintenance type is listed below and corresponds with respective checklists. The frequency of and type of maintenance visits to each site is dependent on various parameters such as location, exposure, to corrosive forces, wind, and maintenance history. For full detail also refer to **ANNEXURE A: Radio High Site Maintenance Procedure Manual**

The Minor Field maintenance visits, would normally be done simultaneously with another visit such i.e. a Major Tower or the other "minor" maintenance visit. The frequency of, and type of visits required on each site, is detailed on the maintenance schedule. (See example below)

[redacted]

The following symbols will be used to identify the different types of maintenance tasks that are to be performed.

A-1 to A-11 = Full Tower Maintenance (See Tower type schedule below)
B = Full Field
C = Minor Field Maintenance
D = Rooftop Maintenance
E = Non Client Owned Share Maintenance
F = Static/Mobile on site generator and BTS maintenance
G = Tower Audit
J = Electrical Maintenance
K = Share Container & RF Maintenance (Green Field)
L = Share Party Electrical Maintenance
M = Share Party Building Sites
*H = Ad Hoc and "I" is intentionally skipped.

The maintenance schedule as per example below will be used to manage the frequency as task types that will be conducted on each site.

Each site is identified by a unique number and site name.

Maintenance Schedule Site Number	Site Name	Type	Qty	Type	Qty	Type	Qty
X	Example01	A-1+CG	1	BG			2
Y	Example02	A-2+B	1	A-2+C	2	CG	3
Z	Example03	DG	1				
	Example04	EG	1				

13.5 **PERFORMANCE INDICATORS - REQUIREMENTS**

The successful bidder will be required to comply at all times to the relevant performance agreements as per the technical operational centre's Standard Operating Procedure as per Annexure A.

13.6 **TRADE NAMES OR PROPRIETARY PRODUCTS**

Tenderers must note that wherever this document refers to any particular trade mark, name, patent, design, type, specific origin or producer, such reference shall be deemed to be accompanied by the words 'or equivalent"

13.7 EMPLOYMENT OF SECURITY PERSONNEL

1.

2. All security staff employed by the supplier on behalf of the CCT or at any CCT property

[redacted]

must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the CCT's agent upon request.

13.8 FORMS FOR CONTRACT ADMINISTRATION

The supplier shall complete, sign and submit with each invoice, the following:

a) Monthly Project Labour Report **(Annex 3)**.
b) B-BBEE Sub-Contract Expenditure Report **(Annex 4)**.
c) Joint Venture Expenditure Report **(Annex 5)**.

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than R350.00 per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Supplier shall simultaneously furnish the CCT's Agent with copies of the employment contracts entered into with such labour, together with certified copies of identification documents as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it and proof of such acknowledgement shall be furnished to the CCT's Agent.

The Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein.

The **B-BBEE Sub-Contract Expenditure Report** is required for monitoring the supplier's compliance with the sub-contracting conditions of the **Preference Schedule**.

The Joint Venture Expenditure Report is required for monitoring the joint venture's/consortium/partnership compliance with the percentage contributions of the partners as tendered, where the joint venture/consortium/partnership has been awarded preference points in respect of its consolidated B-BBEE scorecard.

1 ANNEXURE A: Radio High Site Maintenance Procedure Manual

The following procedures include the maintenance tasks as performed by the current contractor City of Cape Town Telecoms

[redacted]

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

SCOPE

The "Contractor" refers to the successful tender for this contract;
The "Client" refers to any entity that is requesting the service to be rendered.

The maintenance work described in this document is divided into seven (9) categories or types namely:

- A. Tower Maintenance (Various types and heights)

[redacted]

- B. Full Field and Electrical Maintenance
- C. Minor Field Maintenance
- D. Rooftop Maintenance
- E. Non-Client Owned Shared (other) sites
- F. Static/Mobile on site generator and BTS maintenance
- G. Tower Audits.
- H. Ad Hoc
- I. *(Intentionally skipped)*
- J. Electrical Maintenance
- K. Share Party Container and RF Maintenance
- L. Share Party Electrical Maintenance
- M. Share Party Building Sites

There are primarily three (3) kinds of sites namely:

4. Greenfield sites owned by Client;
5. Rooftops;
6. Other sites including shared sites with Vodacom, Cell C, Telkom Mobile, Sentech etc.

The Greenfield and "other" sites could be rural or urban sites. Rooftops are generally in built up urban areas but also occasionally occur on Silo roofs in rural areas.
There are various types of towers namely, lattice (tubular and angular), steel hollow monopoles, concrete monopoles, & enviro (tree) towers, steel encased concrete, etc., as well as stub masts on rooftops.

AD Hoc projects are described in H. The Contractor would be required to quote separately for each of these projects and will be issued with a separate purchase order and issued with a works authorization once the quote has been approved.

RISK PROFILE

The Contractor is required in terms of the Safety Act 85/1993 and the Construction Regulation 4 to assess the site risks and mitigate them by means of a risk analysis and resultant safety plan. A copy of your risk analysis and safety plan is to be present on the Contractor at all times.

- Preliminary Risks identified are the following:

1. Travelling long distances by road with staff, equipment and towing a trailer.
2. Accessing 4 x 4 terrain negotiating complex roads built on mountain sides.
3. Accessing high risk areas prone to high jacking or personal assaults.
4. Accessing restricted land areas or sites where landowners view safety and security very highly.
5. Working in remote areas far from professional medical assistance.
6. Injury or death caused by insect, snake or other animal bites.
7. Injury or death caused by falling from heights i.e. Tower structures and rooftops.
8. Injury or death caused by electrocution.
9. Injury or death caused by working with tools or machinery.
10. Injury or death caused by lack of skills and awareness training.
11. Injury or death caused by failure of personal protective equipment.
12. Electro Magnetic Field (EMF) dangers when working close to antennae for prolonged periods.

It is hazardous to work in close proximity to antennae transmitting at normal power levels for a prolonged period of time. The Client's SMC must be contacted to reduce the output power should this be the case. The Contractor must ensure to contact the Client's SMC to ensure that the power is returned to normal after the work is completed.

GENERAL REQUIREMENTS

Initial Program.
The Contractor must supply an overall program of works indicating how many maintenance visits and types are done in each month to meet the Maintenance Schedule, allowing for seasonal weather patterns and annual holidays.

The Contractor must monitor his monthly against this program. The actual number of sites visited to date, - present month, compared to the total must be clearly shown on each monthly invoice as submitted by the Contractor.

Route Planning.
At the beginning of each month, the Contractor must provide proposed round trip routes where 5 to 10 sites can be visited en-route per week per team. These are to be approved by The Client prior to the commencement of the work on these routes. This plan will be reviewed weekly.

Site logbook - record keeping.
A logbook that will be found in the site container must be filled in indicating the reference number as obtained, arrival and departure times and purpose of visit e.g. Tower maintenance or field maintenance or both. Any major faults found must be recorded especially items that pertain to safety.

Site entry and exit.
The site entry procedure is attached hereto as an annexure. The Contractor must ensure that the correct locks are placed in the correct position e.g. container and gate failing which other users may not be able to get access to the sites. Any access gates, doors etc. must be left as found to ensure that the relationship between the Client and the respective landowners are not damaged.

Provision of Equipment.
All materials and equipment to carry out the maintenance work, as described below, must be provided by the Contractor except for aircraft warning light fittings, which will be supplied by the Client, if needed for replacement.
Equipment or material required for non-routine work must be discussed with the Client in order to obtain permission to purchase the said equipment or material, by means of an approved quote.

Four-Wheel Drive Transport.
- The Client has sites that will require access with 4-wheel drive vehicles. The use of the correct type of vehicle is important as it is not only a safety concern when accessing 4 x 4 roads, the 2 x 4 vehicle causes damage to the road surface.
- The Contractor is to ensure availability of suitable vehicles (1 ton bakkie) at all times for their team. Normal trailers (Standard) or off road trailers (on 4 x 4 sites) would also be needed especially for the major field maintenance to transport tools and for the removal of rubble from sites.

High Risk Areas.
Certain regions have sites deemed to be high-risk areas. A list of sites will be provided by the Client. Contractors may quote an additional cost for armed escorts, should they deem it necessary, with the prior approval of the Client. The locality of certain sites such as those situated on farms and mines will necessitate that the vehicle is to be fitted with a revolving light. This must be provided by the contractor.

Ordinary Maintenance Tasks and Payment Thereof.
The Contractor must provide all tools, equipment, materials, safety equipment, supervision, labour, transport & accommodation, execute all the relevant tasks covered in the scope of works as listed below in "Maintenance Tasks" and at the contracted rates as per the Pricing Schedule.

[redacted]

The Contractor is referred to the Annexure showing the Tools and Equipment lists, and Safety Equipment, which indicate the items that the Contractor is expected to carry as a minimum and will be deemed to be included in the contracted rates.

Extraordinary Tasks and Payment Thereof.
Extra-ordinary tasks are tasks that are clearly not covered in the scope of work. Instructions to carry out any extra-ordinary tasks and any issues relating to this contract will only be given to the Contractor by the Client designated person.

Approved method statements of repair procedures and materials to be used will be provided for all special tasks, where relevant. A quotation must be provided together with supporting documents like supplier's quotes and material quotes. This quotation must be signed by the designated person/s upon approval, before work commences. Failure to comply can result in non-payment.

Progress Meeting.
Regular meetings will be held to monitor progress and quality of work. The Client will chair the meeting, take minutes and distribute the minutes. See Annexure A1: Proposed Agenda. More regular informal meetings may be held to suit the respective regions requirements.

Reports.
The report forms included in this document are self-explanatory but as a general principle the reports are compiled in the format of an excel spread sheet with one column per site. This will minimize the amount of paperwork and provide an easy method of capturing the information onto the Client's database system.
The report information may be collected on site by means of checklists, but the information must be submitted to the Client in the form of e-mail and in the excel pro-forma formats provided.

The reports are, for information and supplied by the Client:

1. Site list. (This indicates what type of maintenance is to be performed per site) This list is updated by the Client whenever new sites are added to the maintenance program;
2. For reporting by the Contractor;
3. Maintenance reports for the relevant activity. (Tower maintenance report, major field maintenance report, etc.);
4. Monthly fault reports;
5. Route planner (weekly);
6. For data collection by the Contractor;
7. Site data base. (The Client will supply the initial data in an excel format.)

The information filled in on the maintenance report should be a one or two word response, but should a fault or more detailed comment be necessary it should be referred to the fault report (= FR) and included in the monthly fault report form.
All reports form an integral part of the scope of work.

Site Lists.
A full list of sites will be provided to the Contractor for each area. The list may increase slightly as new sites come on line and the Contractor acting in the area may be given the option to add these sites to their respective list.

Should the Contractor feel that it does not have capacity to take on these extra sites the Contractor must accordingly advise the Client immediately.

The Contractor is to ensure that the information on the site list is correct when compared to what is actually found on site.

The contractor is to update the site list (soft copy) and hand this to the Client at the monthly meeting.

[redacted]

The Client will use this information to ensure that the current information is available regarding what is on the site. I.e. Actual antennae loading.

Qualification and Training.

Contractor's personnel are to be suitably qualified, experienced, and trained for the particular tasks that have been assigned to them.
Proof of qualification or training courses attended can be requested by the Client.
The Client will provide various training courses such as ISO 14000, climbing and abseiling, installation of earthing kits, etc. The Contractor's personnel would be expected to have attended these courses at their cost.

Personal protective equipment.

The Contractor is to ensure that all rigging staff/ sub-contractors working on the Client's sites are issued with certified PPE and are trained in the correct use thereof. This includes but is not limited to:

- Rope Access Kit
- Description Qty
- Full Body Harness 1
- Waist Positioning Lanyard 1
- Twin legged Energy Absorber lanyard 1
- Industrial Climbing Helmet 1
- Anchor Sling 4
- Pylon Hook 2
- Karabiner 9
- Leather Gloves (pr) 1
- Safety Glasses 1
- Tool Pouch 1
- Storage Bag 1
- Tool Cord 1
- Descender 1
- Chest Ascender 1
- Handled Ascender 1
- Backup Device 1
- Single Cowtail 1
- Double Cowtail 1
- Etrier Cowtail 1
- Etrier foot loop with biner 1
- 11mm Static Rope 100 m
- Shoulder Strap 1
- Demi Rond Maillon 1
- Rope Bag 1
- Rope Edge Protector 2
- EMF exposure indicator IE Compact Dosi meter 1

Contractor appearance.

All Contractors' personnel are to be issued with ID tags so that they can identify themselves to other parties on site, such as landlords, the Client's personnel etc.

All contractors' personnel must be neatly dressed appropriate for the job function IE. Overalls and boots.

The contractors personal will conduct themselves in a manner to portray a good image to the general public or landlord.

[redacted]

Maintenance Tasks

The scope of work for each Maintenance type is listed below and corresponds with respective checklists. The frequency of and type of maintenance visits to each site is dependent on various parameters such as location, exposure, to corrosive forces, wind, and maintenance history.

The Minor Field maintenance visits, would normally be done simultaneously with another visit such i.e. a Major Tower or the other "minor" maintenance visit. The frequency of and type of visits required on each site is detailed on the maintenance schedule. (See example below)

The following symbols will be used to identify the different types of maintenance tasks that are to be performed.

A-1 to A-11 = Full Tower Maintenance (See Tower type table below)
B = Full Field
C = Minor Field Maintenance
D = Rooftop Maintenance
E = Non Client Owned Share Maintenance
F = Static/Mobile on site generator and BTS maintenance
G = Tower Audit
J = Electrical Maintenance
K = Share Container & RF Maintenance (Green Field)
L = Share Party Electrical Maintenance
M = Share Party Building Sites
*H = Ad Hoc and "I" is intentionally skipped.

The maintenance schedule as per example below will be used to manage the frequency as task types that will be conducted on each site.

Each site is identified by a unique number and site name.

Maintenance Schedule Site Number	Site Name	Type	Qty	Type	Qty	Type	Qty
X	Example01	A-1+CG	1	BG			2
Y	Example02	A-2+B	1	A-2+C	2	CG	3
Z	Example03	DG	1				
	Example04	EG	1				

Type A: Tower Maintenance Procedures

The Tower maintenance procedures specified in this document will be followed and conducted at all tower sites identified. The frequency would be increased at exposed coastal sites, high wind areas, major metro areas, or a site that warrants this, as they have not received this attention recently.

Tower type table Type	Description of tower	Height
A-1	3 Legged Lattice tower (Tubular or Angular)	18m or lower.
A-2	3 Legged Lattice tower (Tubular or Angular)	Between 19 to 36 m

A-3	3 Legged Lattice tower (Tubular or Angular)	37 m and higher
A-4	Steel monopole towers	All heights
A-5	Steel monopole towers with additional legs/stays	All heights
A-6	Concrete monopole towers	All heights
A-7	Rooftop Stub towers (tower on rooftop)	All heights
A-8	4 Legged Lattice tower (Tubular or Angular)	18m or lower.
A-9	4 Legged Lattice tower (Tubular or Angular)	Between 19 to 36 m
A-10	4 Legged Lattice tower (Tubular or Angular)	37 m and higher
A-10	4 Legged Lattice tower (Tubular or Angular)	37 m and higher
A-11	Externally Stayed Lattice	All Heights

Note. Internally stayed lattice towers will be incorporated into types A-1 to A-3.

A.1 Site Erosion

- The Contractor must examine the site for signs of erosion especially at the edges of the tower and container foundations.
- The Contractor must further check for possible entrapment of water within the sites especially near foundations.

- ***Repair action:***
  1. The Contractor must take photos before and after the repair.
  2. If minor erosion is found, repair with local material found on or the near site if possible. If extensive erosion is found, (i.e. it takes more than 1 hour to repair or material needs to be imported) it will be considered as extra-ordinary work.
  3. Cohesive soil must be imported, if necessary, and placed in layers of 200mm and thereafter compacted.
  4. Storm water must be routed away from the foundations by means of berms or drainage ditches.
  5. Drainage gaps should be provided through retaining walls, edge beams, and site walls to allow for the escape of the storm water.
  6. The Contractor must obtain prior approval from the Client (including method statements) for any extra-ordinary maintenance work.

A.2 Settlement

- The Contractor must examine the tower base for signs of settlement by visual means, look at the interface between the Tower Foundation and the apron or surrounding area for signs of movement.
- The verticality of the tower could also indicate settlement.

- ***Repair Action:***
  1. Do not rectify the levels unless the action is approved by the Client.
  2. The Contractor must report any variances or settlements to the Client as soon as possible.
  3. Photos must be taken and compared with previous photos taken.

A.3 Foundation Cracks

- The Contractor must examine the foundations for signs of cracks.
- Cracks smaller than 1 mm must be photographed using a tape measure for reference.
- Particular attention should be paid to steel monopoles foundations. See below for further repair action.

- ***Repair Action:***
  1. The Contractor must further describe the cracks and measure the width of the cracks.
  2. If the crack widths are larger than 1mm or there are signs of rust stains exiting from the

[redacted]

crack or the crack has increases since last inspected, a repair procedure must be agreed upon with the Client, to ensure that the procedure can be executed at the next maintenance visit or as an Ad Hoc project.

A.4 Spalling Concrete & Grout on Foundations & Apron Slabs

- The Contractor must examine the concrete foundations and base plate grouting for any signs of spalling.
- If there is no record of actual MPA take Schmidt Hammer readings of the foundation and the base plate grouting.

- ***Repair Action:***
  1. The Contractor must repair minor problems (requiring up to one 10 Kg bag of grout) if spalling and / or cracks are found on the tower foundation or grout.
  2. If problem is major, the Contractor must describe and agree on a repair action with the Client.
  3. Any grout replacement must be undertaken with an approved non-shrink grout.
-

A.5 Drainage Holes

- The Contractor must examine all drainage holes for blockages at the leg base and at each bracing member, where relevant.
- If the drainage holes are blocked with rust flakes the member must be examined to determine wall thickness loss.

- ***Repair Action:***
  1. The Contractor must clean out any blocked drainage holes and report to the Client if no drainage holes are found at the bottom of hollow round members.
  2. Also report the occurrence of rust flakes found inside the tower member and wall thickness loss.

A.6 Rusting Pipe Members

- Where relevant, the Contractor must examine the ends of the pipe members for signs of rust or "running" rust stains and examine the members along their length for any signs of "holing" due to rust.
- In addition, the Contractor must check for red rust as well as white rust.
- Should there be a suspicion that there is a loss of wall thickness then, an ultrasonic thickness meter is to be used in this area to determine the minimum wall thickness of the member.
- This instrument will be supplied by the Client.

Repair Action:

1. The Contractor must identify the tower member/s position; measure the length, diameter, wall thickness, and distance between bolt holes and report immediately to the Client for further action.
2. The Contractor must attend to the surface rust which must be treated immediately, using the agreed procedure.

A.7 Joint Movement & Fasteners on Structure

- The Contractor must examine all tower joints for signs of movement by examining the paint or dirt stains at the joints and/or physically shaking the relevant tower member.
- Tell-tale signs of a loose bolt would be cracks in the paint or zinc paint around the bolt head or nut.
- Do not test the bolt for tightness by checking it with a spanner unless there is suspicion that the bolt is loose.

[redacted]

- On lattice towers all structural members, including cat-ladders and platforms, should receive attention.
- On concrete monopoles, the Contractor must examine the shaft joints for signs of movement, rust from reinforcement or joining plates, spalling of grout, or damage to waterproofing at the shaft joints.
- Cat ladder, safety cages and crow's nest fasteners must also be inspected and corrected.
- On the steel monopoles, the Contractor must examine the barrels for signs of severe slippage at the joints resulting in buckled access ladder stringers.
- Spines and spine stiffeners bolts must be checked and corrected. Cat ladder, safety cages and crow's nest fasteners must also be inspected and corrected.

- ***Repair Action:***

1. The Contractor must check the associated joint bolts and nuts for looseness or damage.
2. If the bolt is loose in the hole, the Contractor must examine the hole for signs of excessive wear as well as any damage to the bolt.
3. If no damage to the bolt hole or bolt is found, the Contractor must tighten the bolt, nuts and torque up to a specified torque. See annexure "A.3".
4. If the bolt is damaged (loss of material), then the Contractor must replace the bolt with a new bolt bearing in mind that currently THE CLIENT requires that all structural bolts will be fitted with a double nut.
5. The Contractor must dab the protruding thread with Zinc Fix Paint and restore the repair to the original colour e.g. green, white or international orange.
6. Cat ladders inside the steel monopoles must be straightened along the full length where necessary.
7. The cat ladder fasteners to be loosened and retightened to release the tension on the ladder to minimize forced bending of the cat ladder.
8. If the ladder has a severe bend that will take extra time to repair then this will be considered as an extra-ordinary item if the work on site will be extended by more than 1 hour.
9. Note: Only grade 8.8 bolts (or higher grade) must be used unless the original bolt is made of stainless steel, which should accordingly then be replaced with stainless steel.
10. Ad Hoc Actions:
    a. If the hole is badly damaged it may warrant reaming out for larger bolts.
    b. If the bolt is tight in the "damaged" hole, the Contractor must not remove the bolt unless a temporary brace is installed first.
    c. This work must be agreed with the Client prior to attempting and will be identified as an Ad Hoc action.

A.8 Rusting Fasteners

- The Contractor must examine bolts, nuts, washers for signs of rust.

- ***Repair Action:***

1. If a bolt has rusted to a point where there has been material loss. I.E. Pitting on the bolt is material loss; the bolt must be replaced by the Contractor.
2. This pertains to any bolt on the tower I.E Cat ladder hoops of crow's nest structure etc.
3. If the bolts, nuts or washers is showing signs of surface rust (discolouring) then it must be treated for rust by removing the surface rust with a wire brush and then applying the approved Zinc rich product to this area.
4. The bolts must be replaced and/or maintained as described in (A.7) above, where necessary.
5. Most towers in the Eastern Cape and Western Cape have got stainless steel bolts so this must be considered when costing in these areas.

[redacted]

6. The Contractor can claim that due to incorrect maintenance from the previous maintenance cycle/contract or due to extreme terrain conditions, there is warrant in allowing the replacement of significant (more than 20) rusted bolts to be treated as AD Hoc.
7. This must be decided by the Client representative in the region.

A.9 Antenna Mountings

- The Contractor must examine the antenna mountings, booms, and brackets as per items above. Note: DO NOT shake the antennas vigorously.

- ***Repair Action:***

1. As per above with the exception that the Contractor must use stainless steel bolts.
2. All antenna brackets are fitted with stainless steel locknuts (i.e. a double nut system). This must be checked and corrected if not so.

- Note: It is hazardous to work in close proximity to antennae transmitting at normal power levels for a prolonged period of time. The Client SMC must be contacted to reduce the output power should this be the case. The Contractor must ensure to contact the Client SMC to ensure that the power is returned to normal after the work is completed.

A.10 Antenna Safety Slings

- The Contractor must inspect the steel safety cable slings to each antenna (belonging to the Client and other parties).

- ***Repair Action:***

1. The Contractor must further ensure that the sling is attached to a sensible fail-safe part of the antenna and tower.
2. If no sling exists, the Contractor must report to the Client for any further action.
3. The Contractor must cap the ends of the sling with a crimped ferrule (See BTS Spec.)
4. All Crosby clamps must be stainless steel.

A.11 Paint Condition

- The Contractor must attend to the following:-
    a. Examine all paintwork for signs of blistering, peeling, or wind abrasion. Check any other signs of paint failure like chalking.
    b. Look for any signs of rust stains or runs (white or red).
    c. Examine for signs of mechanical damage.

- ***Repair Action:***

1. The Contractor must describe pertinent trends of blistering, peeling, or wind abrasion, expressed as a percentage of the total area of the member and report to the Client.
2. The Contractor must further touch up mechanical damage immediately in terms of the agreed procedure matching the top coat colour.

A.12 Cracked Welds and Members

- The Contractor must visually examine all welds and structural members for any signs of hairline cracking that may be evident.
- On the lattice towers, examine all gussets, flanges, cat-ladder and platforms, where relevant.
- On steel monopoles, the Contractor must examine the bottom flange to the shaft weld, as this connection is prone to fatigue, check the cat – ladder and platform welds, where relevant.

[redacted]

- Check the weld on the spine flange and report 10 m monopole spines that have not been stiffened. Check the "can" weld for any vertical splitting.

- ***Repair Action:***
  1. The Contractor must record any cracks that have been located and immediately report the same to the Client.

A.13 Tower Twist

- The Contractor must examine the overall twist by looking up the face of the tower on each face situated on the lattice towers.
- Please refer to previous records of twist to see if this twist was recorded before and if it is getting worse.

- ***Repair Action:***
  1. If the twist appears significant (>4O), then and in such event the Contractor must quantify the same using the method described in Annexure A.2. Record and report to the Client.

A.14 Kinks in Tower Legs

- The Contractor must inspect any kinks in the tower legs by looking directly up the surface of each leg of the tower.
- Please refer to previous records of twist to see if this kink was recorded before and is getting worse.

- ***Repair Action:***
  1. The Contractor must record and report any significant kink (>H/500 for the tower, and >H/1000 per member) by visually comparing to the leg size (diameter or angle size).

A15 Cable Condition

- The Contractor must inspect the RF feeder cables for any damage or failing waterproofing kits.
- The navigation light electrical cable should be strapped with T120 black cable ties UV resistant. Check that cable tray is properly supported.
- Check that the feeders are supported at 1m to 1.5m intervals with the Client issued cable clamps for their full length.

- ***Repair Action:***
  1. The Contractor must report any damage to the feeder cable.
  2. The contractor must repair failing waterproofing around connectors using the Client issued waterproofing kits.
  3. The Contractor must replace broken or missing cable ties, where necessary.
  4. Repair and touch up (rust/paint) the cable tray and cable tray support.
  5. The Contractor must further install new RF feeder clamps where necessary to support the feeders and jumpers.
  6. Free issue comfy clamps must be used to support jumper cables leading to the antennas.

A.16 Feeder and Cable Entries

- The Contractor must inspect the condition of the feeder and the cable entries into the tower and containers.

- ***Repair Action:***

[redacted]

1. Monopole: The Contractor must seal the entry and exit openings, where necessary, with spray foam neatly trimmed and finished off with a silicone covering.
2. Container: Where there is no rubber boot over the gland the Contractor must seal the same with exterior clear silicone or black ABE waterproofing membrane. Spray foam is not to be used in this application.

A.17 Tower Doors

- The Contractor must inspect the tower doors locking and hinging mechanism.

- ***Repair Action:***
  1. The Contractor must oil the mechanism where necessary and report any major damage immediately to the Client.

A18 Earthing System

- Visually inspect the earthing system as well as the feeder earth for any signs of damage to the waterproofing specifically at the joints.
- All feeders must be earthed.
- Inspect all bolted earth connections.

- ***Repair Action:***
  1. Repair earth connection point waterproofing where necessary with the approved the Client issued waterproofing kit (Andrews or similar approved type).
  2. All bolted earthing points must be checked for tightness and have petrolatum paste applied.
  3. Record and report back to the Client if a copper flat tape or insulated copper cable is used as part of the earth system or if the feeders is not earthed at all.

A.19 Aircraft Warning Lights

- The Contractor must examine the aircraft warning lights for functionality and position (should be mounted to outside face of leg). Make a note of the amount of lights.

- ***Repair Action:***
  1. The Contractor must replace all faulty light bulbs at the time of inspection and record the date of the replacement on the neck of the bulb.
  2. These fluorescent bulbs are considered as hazardous waste, disposal needs to occur in the correct manner.

A.20 Mono pole Internal Lights

- The Contractor must examine the functionality of the interior cat ladder lights (steel mono pole).

- ***Repair Action:***
  1. The Contractor must replace the fluorescent bulbs only if faulty and record the fact.
  2. These fluorescent bulbs are considered as hazardous waste; disposal needs to occur in the correct manner

A.21 Antennas: Quantity & Heights

- The Contractor must record the antenna types, quantity, and heights.
- Detailed Descriptions are required.

- ***Repair Action:***
  1. If different to existing data, report to the Client as soon as possible.

A.22 Stay Cables On Towers

- The Contractor must examine the cables for signs of:

[redacted]

a. rust along the length
b. slippage at connection points (Crosby clamps),
c. wear and abrasion against the tower or cable connections
d. damage, slippage, wear of cable connection assemblies
e. looseness of the cable tension

Repair Action:

1. The Contractor must record and report any faulty conditions to the Client.
2. Any work performed will be considered as specialist work and be treated as Ad Hoc.

A.23 Fall arrest systems

- The Contractor must inspect the fall arrest system that is installed on the tower as per the manufacturer's recommendation and training. Special attention must be given to the inspection of the crimp connection area to inspect for signs of cracking on the cable. A certificate must be issued by your trained inspector (trained by the supplier) that must be renewed annually.

Repair Action:

1. The Contractor must record and report any faulty conditions to the Client.

A24 New Problems to Be Identified

- The Contractor must examine the tower and foundation for any other obvious problem areas that may be apparent and need attention.

Repair Action:

1. Depending on the urgency of the item the Contractor must record reports to the Client as is relevant.

A.25 Digital Photographs

- The Contractor must take the following digital photographs:
  - Fault photos.
    a. Take photos of any significant fault found. Before repair and after repair photos is a good idea. Photos taken to monitor foundation cracks must have reference items in the photo. I.E. Tape measure or rule.
  - Data photos.
    a. Site photographs should be updated regularly and whenever any changes occur to a specific site and issued to the Client and Share Party within 1 month after the end of the maintenance cycle during which the respective changes were detected. All photographs shall be date stamped when taking the picture.
  - The following photographs shall be taken:
    a. Take a photo of the site number on the gate or shelter door. This will assist with identifying the photos taken after this.
    b. Whole site or Building including a 5 meter perimeter
    c. Site Name and Information
    d. Antennas and Loading (above crow's nest and of all users present)
    e. All four inside walls of the site accommodation showing all equipment.
    f. From the top of the tower (highest resting point) DOWN – to show the layout of the site minimum of 2 photos and 1 x video in .mov format showing a 360° view of surroundings for Category confirmation.
    g. Four elevations of the total site (Not the full length of the tower) where possible
    h. Inside of the external and internal distribution boards (with and without the flash plates.)
    i. Inside of manhole
    j. Feeder cables at earthing kit points and running up tower
    k. Feeder ports on towers
    l. Feeder water proofing

[redacted]

m. All external earth points with date & time stamps to be taken by suite supervisor after closing ref. with SMC.
n. All site signage to show the Client EMF and tower signage specification is in place.
o. Access road

- Photos should be taken from a similar position each year. When saved to disk, all photos must be identified by the T No in the first part of the photo name for ease of sorting and locating.
- Photos must be submitted on a memory stick or disk at the same time as the monthly reports especially when discussing faults.
- Photos must be taken in sufficient detail to ensure that the problem can be addressed and discussed effectively. "Location" photos must be taken together with close-up photos to assist in identifying the problem.
- The Contractor must ensure that directories of photo files are compiled so that data photos and fault photos are kept separate.

A.26 Maintenance and fault reports

1. The Contractor must complete the Tower Maintenance Report together with comments that makes sense to anyone not just the writer.
2. The contractor must also record faults found and corrected on the Fault report sheet.
3. The contractor must also submit a list of sites that have been maintained in this period as compared to the agreed Route Planner document.

4. **Type B: Full Field and Electrical Maintenance:**

This task type would typically be done at owned sites and more regularly in high rainfall / humid areas. Sites with kept lawns, concrete aprons and no access roads would typically not need this type of maintenance and should be considered for the minor field maintenance.

B.1 Access Road

- The Contractor must inspect the access road for signs of erosion, potholing (where relevant), excessive overgrowth, damage to gate, blocked storm-water drains, etc.
- Examine the road for overgrowth that is hindering access to the site or that can cause serious damage to vehicles.
- All rubble and cut overgrowth must be removed from site and disposed at a suitable dump site.
- Should the landlord permit on site dumping of cut vegetation then written permission must be obtained from the landlord to enable a written concession to be granted.

***Repair* Action:**

1. If minor erosion is found, repair with local material found on or near site if possible.
2. Before and after repair photos must be taken. Clear / trim overgrowth for an area 20m wide for the full length of the site fence on the approach side.
3. This must not be done at environmentally sensitive sites e.g. fynbos, protea plants etc.
4. Clear the road of overgrowth up to edge of road to allow access, and to permit a safe view of the full road width.
5. Clearing the road of overgrowth to a distance of 100 m from the site will be considered part of this scope.

Ad Hoc Actions:

1. If extensive erosion is found (fixing this takes more than 1 hour and or requires material to be imported), it will be considered as extra-ordinary.
2. Longer lengths of overgrowth clearing, and where multiple trips are required to clear rubble, will be considered as extra-ordinary.
3. This must preferably be identified in advance to performing the standard maintenance to avoid return to site costs.

[redacted]

B.2 Perimeter Fence

- The Contractor must inspect the perimeter fence (wire mesh or palisade) for signs of corrosion, paint deterioration, damage, erosion or settlement of fence foundation, operation of gate hinges, stiffness of wire mesh and razor wire supports etc.
- The contractor must check that the electric fence is functional and there is no broken wire strands. Check for rusted fasteners. Check that the locks are the correct type and are functional.

Repair Action:

1. The contractor must treat any surface rust on the fence posts or pales.
2. Straining eye bolts and wire tensioners must be treated for rust if applicable.
3. Rusted straining wire, wire mesh or razor wire must not be treated but it must be reported if it is no longer functional.
4. A temporary repair must be done by the contractor.
5. Touch up damaged paint areas on the fence.
6. Tension all straining wires.
7. Grease all hinges and oil locking mechanisms and locks.

Ad Hoc Actions:

1. If the straining eye bolts and wire tensioners are beyond repair it must be reported to the Client and dealt with as extra-ordinary.
2. If the electric fence or energizer is severely damaged this must be reported to the Client and dealt with as extra-ordinary.
3. Non-functional straining wire, wire mesh or razor wire will also be dealt with as extra ordinary.

B.3 General Safety Signage, Advertising and 4x4 Signs

- The contractor must inspect all Safety signs as listed in the specification to ensure that the latest type of sign is being used.
- Check the condition and adequacy of fasteners. Check that the site no. is correctly portrayed and that the size and font is as per spec.
- The contractor must ensure that existing Advertising signs are checked for correct size, latest logo version etc.
- Where the road leading up to the site is a 4 x 4 road, check for 4 x 4 road warning signs in appropriated places.

Repair Action:

1. Make fasteners good and clean sign with detergent.
2. Install new signage provided by the Client where relevant.
3. Add correct site No. or correct the font, if necessary.
4. Where advertising signs are incorrect the sign must be replaced.
5. Incorrect Share party sign size must be reported. .
6. Were 4 x 4 warning signs do not exist, install at the bottom access gate or any other suitable structure at the bottom of the road.
7. Where no suitable structure exists for mounting such a sign, the manufacture and installation of a suitable structure will be regarded as extraordinary work.

B.4 Overgrowth on Perimeter and around Power Supply Pole.

- The Contractor must inspect the external perimeter of site for ingress of overgrowth (including tree branches) or rubble constituting a possible fire hazard.
- Check proximity of any shrubs or fire hazard at local power supply pole.

Repair Action:

1. Cut the grass and any other overgrowth down to ground level within 1 m around the

[redacted]

site perimeter.

2. Cut the grass and any other overgrowth down to ground level within 1 m radius of the power supply pole.
3. Pick up and remove, all litter within 20m of the perimeter.
4. Prune branches back to at least vertical line of site perimeter fence.
5. Trim but do not remove growth occurring in retainer blocks.
6. A client approved weed killer/poison may be used if needed.
7. All rubble and cut overgrowth must be removed from site and disposed at a suitable dump site.
8. Should the landlord permit on site dumping of cut vegetation then written permission must be obtained from the landlord to enable a written concession to be granted.
9. Care must be taken on environmentally sensitive sites or cultivated land areas as to what vegetation is removed or how the use of poison is introduced.

B.5 Crushed Stone and Beams

- The Contractor must inspect the condition of crushed stone and perimeter beams for neatness.

Repair Action:

1. Clear any growth, apply approved poison and rake to uniform level.
2. Report ailing stone to the client for consideration to upgrade to a concrete apron.

B.6 Isotherm (Container) Equipment Shelter.

- The Contractor must inspect the Client's equipment shelter for signs of corrosion, possible leaks, and damage to the roof.
- Ensure that the equipment shelter is well secured.
- All shelters on Client owned sites must be washed externally and checked for rubble ingress underneath.
- Use a mirror to inspect inaccessible areas underneath the shelters.
- Corrosion control on non-client owned containers must not be done but it must be reported to Client.
- Any damage to these non-client containers must also be reported.

Repair Action:

1. Repair leaks and treat corrosion where necessary.
2. Clean all external container walls and the Client's container roof with a car wash shampoo.
3. A mop must be used to wash the roof, do NOT climb onto the container roof, use a step ladder.
4. Do not wash the roofs of 3rd party containers, unless an agreed upon share party maintenance site.
5. Tiled floors must be cleaned with a damp cloth or mop using Future or One Step or similar floor polish/cleaner.
6. Painted floors must be cleaned with a damp cloth or mop and if more than 10% of the floor surface has been scuffed due to wear and tear, the floor must be repainted with epoxy paint after suitable surface preparation.
7. The internal walls and equipment tops, ladder racking and ducting must be dusted and wiped lightly taking care not to damage any equipment.
8. Internal lights and external container fluorescent tubes must be changed if faulty.

Note. Only wash the outside walls of the share/ leasing party containers on Client owned sites if not part of a share party maintenance agreement.

B.7 Brick Room Equipment Shelter.

- **External:**
    - The Contractor must check water proofing on roof, check condition of roof tiles and check gutters, down pipes and facia boards for damage.
    - Check condition of paint (flaking) on gutters, facia boards and down pipe.

[redacted]

Repair Action:

1. The Contractor must repair waterproofing damage with membrane or other suitable products up to an area of +/- 300mm x 300 mm.
2. Areas larger than this must be reported after the repair and will be considered as Ad Hoc.
3. Replace any broken tiles with similar type and colour.
4. Report condition of paint (flaking) on gutters, facia boards and down pipe and record colour so that this can be done during the next maintenance visit or it could be dealt with as Ad Hoc if severe.

- **Internal:**
    - The Contractor must check the walls for rising damp, check ceilings for water leaks, check walls for dirty marks, check condition of paint on the walls, check condition of floor tiles and skirting and check for dust on equipment.

Repair Action:

1. The Contractor must repair minor damp spots of +/- 300mm x 300 mm that must be treated, cleaned, sealed and painted to match existing.
2. Major damp problems must be repaired and reported as Ad Hoc.
3. Dirty marks on the walls must be washed off using a suitable detergent.
4. Where these marks cannot be removed by washing then the wall must be painted as specified in the specification.
5. If the complete room is to be painted then this must be reported to the Client before being treated as an Ad Hoc action.
6. Broken or lifting floor tiles must be reported and repaired at the next visit as part of the next maintenance.
7. The internal walls and equipment tops, ladder racking and ducting must be dusted and wiped lightly taking care not to damage any equipment.
8. Internal lights and external container fluorescent tubes must be changed if faulty.

B.8 Equipment Room Door and Seals

- Whilst standing inside the equipment room; switch off the light and close the door.
- Examine for any ingress of light through door seals.
- Examine container surface for damage from door handle.
- Inspect operation of hinges and locking mechanism.
- If the door is made of wood, check that the door does not stick in the door frame.

Repair Action:

1. On Isotherm Shelters (container) re-align the door seal without doing further damage and report to the Client for further action if necessary.
2. Apply silicon-based lubricant to rubber door seals and oil hinges and locking mechanism.
3. Repair sticking wooden doors by plaining or sanding the door and varnishing the area to match the rest of the door.
4. Inspect the condition of the door varnish and re-apply a coat of clear varnish for external surfaces if the door surface seems porous.
5. Install impregnated rubber type strips to the frame of timber doors. Report to the Client if doorstop needed.

B.9 Air Conditioners and cooling units. (DC fans and extractors)

The Contractor must inspect air-conditioners and cooling units for:

- Drainage connection externally
- Signs of corrosion on the framework
- Condition of the filters accessible from inside the container.
- Dust build-up on external fins
- Staining and hardening (to point of brittleness) of drainage pipe
- Proper operation i.e. temps to be set at 21 °C and 24 °C on the two ACs. On the

[redacted]

subsequent visit the two temperatures must be swapped around.

- Where CK units (controllers) have been installed on sites, both units must be set to 21°C.
- Damage to aluminium fins.

Repair Action:

1. Ensure external drainage pipe is properly connected functional and draining to perimeter of container slab if the container feet is galvanised. If the feet are stainless steel then the contractor must just ensure that the top air-conditioner does not drip on the bottom air conditioner or on the outside wall of the equipment room.
2. Repair corrosion to accessible framework with suitable approved materials.
3. Remove the filter of the air conditioner and the cooling unit and clean with water (do not use detergents) and brush or air clean. Do not replace until dry. Electrostatic filters are cleaned in the same way as the fibre filters. Excessive dust can be knocked off by means of a sudden shake or jolt before washing.
4. Blow/clean the air intake grill and fan unit of the DC cooling unit.
5. Clean and ensure that the outlet dampers are in good working condition. (not stuck in open position)
6. Unplug the air conditioner units (one at a time) from the socket, slide the unit out of its casing and clean the entire unit outside the equipment housing. Spray the inside casing with corium 209 or similar.
7. Blow /clean the condenser and evaporator coils and cooling fins.
8. Clean the drain canals leading to the condenser fan.
9. Clean the condenser fan blade.
10. Ensure the drain pipe is clear
11. Straighten accessible fins with a fin comb and report if not repairable.
12. Return the unit to its casing.
13. Replace dry and clean filters.
14. Plug in unit and reset the temperature setting as above.
15. Report if the air-conditioner does not blow cold air within 10 minutes.

B.10 Rubble on Aprons and Cracks

- The Contractor must inspect aprons and slab under container for cracks, algae and rubble constituting a fire hazard.
- Also inspect for insect's nests such as bees, wasps etc.

Repair Action:

1. Sweep clean or utilize a blower to remove rubble or debris from the Apron and underneath the container.
2. Hairline crack widths of up to 1 mm must be reported and monitored.
3. Crack widths between 1 mm and 3 mm must be treated (requiring up to 1 bag of non-shrink grout) by mixing the non-shrink grout to a "slurry" and then using a paint brush to apply to the crack.
4. Cracks that are wider than 3 mm must be reported to the Client and a repair action must be agreed with CLIENT as extra-ordinary.
5. Remove all bird's nests if not occupied.
6. Remove insect's nests if possible or arrange for the removal by specialists (considered as extra-ordinary work) if necessary.
7. Utilize insecticides where possible.
8. Remove algae on container walls, concrete slabs or brick walls with a suitable detergent or by diluting 250ml HTH with 10ltrs of water, dip broom in solvent and scrub area.
9. Rinse with clean water.
10. A smaller hand brush can be used on bricks.
11. Suitable protective clothing must be used when applying this method.

B.11 Rubble on Cable Tray & Roof

- The Contractor must inspect the cable tray and container roof for any collection of

[redacted]

rubble and signs of corrosion

Repair Action:

1. Remove any leaves twigs, rubble etc. and repair rust with suitable approved materials where relevant.

B.12 Feeder Manhole

- The Contractor must inspect for signs of rodents in manholes or service entries. Inspect the condition of earthing connections in the manholes.
- Inspect the drainage of sleeves.

Repair Action:

2. Apply approved rodent repellent where relevant.
3. Ensure sleeve allows free drainage where relevant.
4. Refresh denso-paste if necessary.
5. Empty the manhole of any water.

B.13 Expansion Joint Sealant on Apron Slabs

- The Contractor must note condition of joint sealant particularly for signs of pulling away from slab edges degradation to the point of not being functional anymore.

Repair Action:

1. Report to the Client for further action.
2. Repair to expansion joints should be done to the complete site and will be considered as Ad Hoc.

B.14 Digital Photographs Of Faults (Before and After Photos)

- The Contractor must take digital photographs of any problem areas.
- All digital photos should be identified by the SIte No in the first part of the photo name for ease of sorting and locating.
- Fault photos are to be submitted at the same time as the monthly reports especially when discussing faults.
- Photos should be taken in sufficient details that the problem can be discussed at the office.
- "Location" photos should be taken together with close-up photos to assist in identifying the problem.

B.15 Maintenance and fault reports

1. The Contractor must complete the Full Field Maintenance Report together with comments that makes sense to anyone and not just the writer.
2. The contractor must also record faults found and corrected on the Fault report sheet.
3. The contractor must also submit a list of sites that have been maintained in this period as compared to the agreed Route Planner document.

Type C: Minor Field Maintenance

This maintenance type would typically be done at low rainfall dry sites, rural and/or remote sites, or "kept lawn" sites. This could also be used as an interim between full field maintenance visits.

C.1 Access Road

- The Contractor must inspect the access road for signs of erosion, potholing (where relevant), excessive overgrowth, damage to gate, blocked storm-water drains, etc.
- Examine the road for overgrowth that is hindering access to the site or that can cause serious damage to vehicles.

[redacted]

Repair Action:

1. Report problem and/or carry out quick fix if relevant.

C.2 Perimeter Fence

- The Contractor must inspect the perimeter fence (wire mesh or palisade) for signs of damage and the smooth operation of gate hinges and locking mechanisms.
- The contractor must check that the electric fence is functional and there is no broken wire strands.
- Check that the locks are the correct type and are functional.

Repair Action:

1. Oil / grease locking mechanisms and gate hinges.
2. Report problems and/or carry out quick fix if relevant.

C.3 Isotherm (Container) Equipment Shelter.

- The Contractor must inspect the equipment shelter for signs of corrosion, possible leaks, and damage to the roof.
- Ensure that the equipment shelter is well secured.
- All shelters on Client owned sites must be washed externally and checked for rubble ingress underneath.
- Use a mirror to inspect inaccessible areas underneath the shelters.
- Corrosion control on non-client owned containers must not be done but it must be reported to Client.
- Any damage to these non-client containers must also be reported.
- Repair Action:
- Repair leaks and treat corrosion where necessary.
- Clean external container walls and roof with a car wash shampoo.
- A mop must be used to wash the roof, do NOT climb onto the container roof, use a step ladder.
- Do not wash the roofs of 3rd party containers.
- Tiled floors must be cleaned with a damp cloth or mop using Future or One Step or similar floor polish/cleaner.
- Painted floors must be cleaned with a damp cloth or mop and if more that 10% of the floor surface has been scuffed due to wear and tear, the floor must be repainted with epoxy paint after suitable surface preparation.
- The internal walls and equipment tops, ladder racking and ducting must be dusted and wiped lightly taking care not to damage any equipment.
- Internal lights and external container fluorescent tubes must be changed if faulty.

Note. Only wash the outside walls of the share/ leasing party containers on Client owned sites if not part of a share party maintenance agreement.

C.4 Brick Room Equipment Shelter.

- **External:**
    - The Contractor must check water proofing on roof, check condition of roof tiles and check gutters, down pipes and facia boards for damage.

Repair Action:

1. The Contractor must repair waterproofing damage with membrane or other suitable products up to an area of +/- 300mm x 300 mm.
2. Areas larger than this must repaired and reported but will be considered as Ad Hoc.
3. Replace broken tiles with similar type and colour. Report damage (flaking) to paint on gutters, facia boards and down pipes.

- **Internal**:
    - The Contractor must check the walls for rising damp, check ceilings for water leaks, check walls for dirty marks, check condition of paint on the walls, check

[redacted]

condition of floor tiles and skirting and check for dust on equipment.

Repair Action:

1. The Contractor must repair minor damp spots of +/- 300mm x 300 mm that must be treated, cleaned, sealed and painted to match existing.
2. Major damp problems must be repaired and reported as Ad Hoc.
3. Dirty marks on the walls must be washed off using a suitable detergent.
4. Where these marks cannot be removed by washing then the wall must be painted as specified in the specification.
5. If the complete room is to be painted then this must be reported to the Client before being treated as an Ad Hoc action.
6. Broken or lifting floor tiles must be reported and repaired at the next visit as part of the next maintenance.
7. The internal walls and equipment tops, ladder racking and ducting must be dusted and wiped lightly taking care not to damage any equipment.
8. Internal lights and external container fluorescent tubes must be changed if faulty.

C.5 Air Conditioners and cooling units (DC fans and extractor)

The Contractor must inspect air-conditioners and cooling units for:

- Drainage connection externally
- Signs of corrosion on the framework
- Condition of the filters accessible from inside the container.
- Dust build-up on external fins
- Staining and hardening (to point of brittleness) of drainage pipe
- Proper operation i.e. temps to be set at 21 °C and 24 °C on the two ACs. On the subsequent visit the two temperatures must be swapped around.
- Where CK units (controllers) have been installed on sites, both units must be set to 21°C.
- Damage to aluminium fins.

Repair Action:

1. Ensure external drainage pipe is properly connected functional and draining to perimeter of container slab if the container feet is galvanised. If the feet are stainless steel then the contractor must just ensure that the top air-conditioner does not drip on the bottom air conditioner or on the outside wall of the equipment room.
2. Repair corrosion to accessible framework with suitable approved materials.
3. Remove the filter of the air conditioner and the cooling unit and clean with water (do not use detergents) and brush or air clean. Do not replace until dry. Electrostatic filters are cleaned in the same way as the fibre filters. Excessive dust can be knocked off by means of a sudden shake or jolt before washing.
4. Blow/clean the air intake grill and fan unit of the DC cooling unit.
5. Clean and ensure that the outlet dampers are in good working condition. (not stuck in open position)
6. Unplug the air conditioner units (one at a time) from the socket, slide the unit out of its casing and clean the entire unit outside the equipment housing. Spray the inside casing with corium 209 or similar.
7. Blow /clean the condenser and evaporator coils and cooling fins.
8. Clean the drain canals leading to the condenser fan.
9. Clean the condenser fan blade.
10. Ensure the drain pipe is clear
11. Straighten accessible fins with a fin comb and report if not repairable.
12. Return the unit to its casing.
13. Replace dry and clean filters.
14. Plug in unit and reset the temperature setting as above.
15. Report if the air-conditioner does not blow cold air within 10 minutes.

C.6 Rubble on Aprons and Insect nests.

- The Contractor must inspect aprons and the slab under the container for possible rubble constituting a fire hazard as well as any vegetation growth in cracks or

[redacted]

expansion joints.

- Also inspect for insect's nests such as bees, wasps etc.

Repair Action:

1. Sweep clean.
2. Remove vegetation or treat with approved herbicide.
3. Remove all bird's nests if not occupied.
4. Remove insect's nests if possible or arrange for the removal by specialists (considered as extra-ordinary work) if necessary.
5. Utilize insecticides where possible.
6. Remove algae on container walls, concrete slabs or brick walls with a suitable detergent or by diluting 250ml HTH with 10ltrs of water, dip broom in solvent and scrub area. Rinse with clean water.
7. A smaller hand brush can be used on bricks.
8. Suitable protective clothing must be used when applying this method.

C.7 Rubble on Cable Tray & Roof

- The Contractor must inspect the cable tray and container roof for any collection of rubble.

Repair Action:

1. Remove any leaves twigs, rubble etc.

C.8 Digital Photographs Of Faults (Before and After Photos)

- The Contractor must take digital photographs of any problem areas.
- All digital photos should be identified by the T No in the first part of the photo name for ease of sorting and locating.
- Fault photos are to be submitted at the same time as the monthly reports especially when discussing faults.
- Photos should be taken in sufficient details that the problem can be discussed at the office.
- "Location" photos should be taken together with close-up photos to assist in identifying the problem.

C.9 Maintenance and fault reports

1. The Contractor must complete the Minor Field Maintenance Report together with comments that makes sense to anyone not just the writer.
2. The contractor must also record faults found and corrected on the Fault report sheet.
3. The contractor must also submit a list of sites that have been maintained in this period as compared to the agreed Route Planner document.

4. **Type F: Static and on site Generator**

F.1 Static generators installed on sites.

- Must be cleaned and checked for oil leaks and signs of corrosion.
- All areas "damaged" by exhaust fumes must be cleaned.
- Temporary mobile generators found on site must also be cleaned.
- The scope of the maintenance of the generators is as follows.

Repair Action:

1. Wash external generator housing walls and roof with a car wash shampoo.
2. Repair any sign of corrosion.
3. Wash smoke stained areas.
4. Clean the interior unit including the engine by using engine cleaner a brush and a cloth.

[redacted]

5. Small amounts of engine cleaner are to be applied at a time with minimum water.
6. Clean out noise filter by means of a blower.
7. Do visual inspection and report any defects.
8. Clean area around the generator and wash the generator slab.
9. Remove algae on concrete slabs with a suitable detergent or by diluting 250ml HTH with 10ltrs of water, dip broom in solvent and scrub area.
10. Rinse with clean water. Suitable protective clothing must be used when applying this method.
11. Oil all hinges on doors and ensure smooth working of locking mechanisms.

F.2 Mobile on site Generators.

Repair Action:

1. Wash external generator housing walls and roof with a car wash shampoo.
2. Repair any sign of corrosion.
3. Wash smoke stained areas.
4. Clean the interior unit including the engine by using engine cleaner a brush and a cloth.
5. Small amounts of engine cleaner are to be applied at a time with minimum water.
6. Clean out noise filter by means of a blower.
7. Do visual inspection and report any defects.
8. Oil all hinges on doors and ensure smooth working of locking mechanisms.
9. Clean tyres and apply water based silicone.
10. Do visual a inspection of the tyre pressure and report if it seems low.
11. Check and tighten wheel nuts.
12. Check presence and condition of spare.
13. Check condition of indicators and stop lights if broken or missing.
14. Check condition of tow hitch and electrical cable if missing or damaged.
15. **Type G: Tower Audit**

The Tower Audit must be conducted on each and every Client owned tower. These audits will be used for the purpose of establishing the loading capacities of all towers in the Client's network. These audits will be done only once for each tower and all information gathered will be verified for each subsequent Tower maintenance visit.

G.1 Tower Audit sheet.

1. The tower audit is to be conducted using the Tower Audit Survey Sheet.
2. The Tower Audit Survey Sheet will be completed on site during a normal routine maintenance visit.
3. Only the additional time taken to fill out this sheet and to facilitate the administration must be costed for this activity.
4. All information gathered on site will be updated into the Client's database and submitted to the Client within 7 days of month end.
5. All Photographs taken, including photos taken outside this direct task will be submitted to the Client on a Memory Stick or Disk, formatted as previously requested, to the Client at the same time of submission of the database info collected.
6. All recalculation of loading capacities will be done by a appointed Engineer and/or the Tower Manufacturer as needed.

Type J: Electrical Maintenance.

J.1 HVAC

- Check air conditioner operation.
- Check air conditioner plugs and plug tops.
- Check CK unit operation.
- Check CK fan operation.

[redacted]

Repair Action:

1. Check that the air conditioner is operating at the correct temperature.
2. Report if faulty.
3. Check air conditioner plugs and plug tops for hot spots.
4. Report faults.
5. Report any faulty CK units.

J.2 Earthing

- Inspect accessible all earthing points including earthing points in manholes and supply earths in DBs and main supply board.
- Inspect feeder entry plate earth/ common earth bar.
- Check indoor equipment earth connections on all radio cabinets, transmission cabinets and rectifiers.
- Check continuity of entire earthing system by ensuring that all equipment including tower structures, fence, antennae poles and cable gantries on rooftops are bonded to the same earth system.
- See the Client's specification for reference to the earth specification.

Repair Action:

1. Tighten loose bolt connections.
2. Cover external connections with petrolatum paste were applicable.
3. Report faults that cannot be repaired or items that are missing due to theft or vandalism.

J.3 Loop Tests

- Perform an earth loop impedance test from the point of supply to the point of consumption i.e. from the Client's mains DB to the ESKOM / Municipal DB or at building supply point (Landlord DB).
- This is to ensure that the fault current path (protected earth) is still in place and that the measurement taken complies.

Repair Action:

1. Report measurements that are out of specification.

J.4 Distribution Boards

- Check earth leakage with earth leakage tester.
- Check condition of wiring, circuit breakers, switches, neutral bars, voltmeter, generator plug and mains generator switch.
- Make use of hand held infrared thermometers to detect hot spots that will indicate loose connections or deteriorating contacts of switches, mcb's and contactors etc.
- Do not use a screwdriver to check for loose connections other than on the earth bar.
- Check voltage, phase to neutral on all phases and neutral to ground.

Repair Action:

1. Replace faulty earth leakage.
2. The cost of the earth leakage will be Ad Hoc and the faulty earth leakage switch must be returned to the Client.
3. Tighten loose connections in the DB by making use of insulated tools.
4. Report if the variance in voltage is more than 10% from 230v.
5. Report any faults that cannot be repaired.

J.5 Battery maintenance

- Check condition of battery terminal for electrical corrosion.
- Check physical condition of batteries (cracked, leaking or bulging)

[redacted]

Repair Action:

1. If corrosion is present, strip and clean battery terminal (using a brass bristle brush).
2. Re-assemble using battery grease and torque battery studs.
3. Check that all terminals are torqued.
4. Report damaged batteries.

J.6 Charger/ Rectifier system

- Check the supply and distribution connections in the rectifier and on the top of the radio cabinets with an infrared handheld thermometer and tightening must only take place if a hot spot is present. Care must be taken to use insulated tools to prevent short circuits or injury to personnel.

Repair Action:

1. Tighten connections.

J.7 Miscellaneous

- Check condition of lights, plugs and switches.
- Check for correct operation of electric fencing.

Repair Action:

1. Repair faults and report concerns.

Detail scope of Electrical Maintenance.

Air conditioners

- Confirm circuit breaker wiring according to legend.
- Test CK12 to confirm air conditioner 1 & air conditioner 2 operates.
- If any air conditioner does not work via the CK unit then test air conditioner separately with 14mm² cab tyre extension to normal supply socket.
- If faulty enter remark on check list:- Not cooling, Not running or noisy.

Repair action:

2. Repair any dedicated socket fault on site.

Earth test:

Do earth resistance test with earth resistant tester on :

- Container base
- Any corner of fence
- Lattice or monopole base
- Meter box frame
- Inspect RBS earths.
- Inspect Rectifier panel earth.
- Inspect transmission cabinet earth.

Repair action:

1. If work needs to be done to replace of install no earth connections then notify CLIENT and quote possible costs before getting the approval to install while on site.
2. Claim Ad Hoc cost.
3. Record collective earth reading.

Container DB

- Test all earth leakages with earth leakage tester on normal supply socket outlets. Report if earth leakage reading is higher than 30ma.

[redacted]

Repair action:

1. Replace earth leakage on site. Notify CLIENT and quote possible costs before getting the approval to install the new Earth leakage.
2. Claim Ad Hoc cost.

DB Circuit Breaker

- Do visual DB circuit breaker, check for clips broken, burned connections and operation.
- Do infrared test for "Hot connections".

Repair action:

1. Replace single phase 5A, 10A, 20A breakers if faulty on site (Ad Hoc).
2. Repair burned wires that can be fixed.
3. Report any other faults that cannot be repaired while on site.

DB Visual Inspection

- Inspect DB visually for rust, holes, broken hinges & face plates.

Repair action:

1. Treat rust on site.
2. Report all other faults.

Voltage Tests

- Test voltmeter, selector switch voltmeter, selector switch generator and generator socket.

Repair action:

1. Report if faulty generator selector and socket is HIGH.
2. Report if faulty volt meter and selector is LOW.

Main supply DB or LV DB in the case of rooftops

- Do visual DB circuit breaker check for broken clips, burned connections and operation.
- Do infrared test for "Hot connections".

Repair action:

1. Repair burned wires that can be fixed.
2. Report any other faults that cannot be repaired while on site.

- Inspect DB visually for rust, holes, broken hinges & face plates.

Repair action:

1. Treat rust on site.
2. Report all other faults.

Test voltmeter, selector switch voltmeter, selector switch generator and generator socket.

Repair action:

1. Report if faulty.

Measurements DB :

- Test L1 – N
    a. L2 – N
    b. L3 – N
    c. N – G

[redacted]

- Report N – G voltage higher than 10v.
- Report phase to neutral difference higher than 5%.

Repair action:

1. Check that air conditioners are not on the same phase.
2. Check main earth and neutral connections.

Batteries:

- Do visual inspection on all batteries, terminal tightness, leaking batteries and swollen batteries.
- Do "Go no Go" test on all batteries.

Repair action:

1. If there are loose battery terminals then torque to 10nm on site.
2. Report all leaking or swollen batteries to the Client.
3. Batteries not giving min of 6VDC on "Go no Go" test report to the Client

Miscellaneous:

- Inspect inside light.
- Inspect outside container light.
- Inspect all light switches.
- Aviation lights:- Measure supply from under CB 10A to neutral 220VAC
- Electrical fence

Repair action:

1. Replace any lamps not working on site. (Use free issued lamps or claim Ad hoc if the Client cannot issue.)
2. Replace faulty or broken light switches on site. (Use Ad Hoc process to claim back from the Client.)
3. Report faulty lights not repairable on site.
4. Report to the Client if CB is tripping.

Type H: Ad Hoc Projects

Ad Hoc projects are projects that would require the Contractor to perform various types of projects that take place on existing sites.

Typical types of projects are but are not limited to:

1. Any painting project. (Tower, equipment room, fence and antennae.)
2. Perimeter fence/wall upgrades, repairs and replacements.
3. Civil work like concrete aprons, retaining walls or road upgrades/ repairs and tower foundation repairs and casting.
4. Antennae optimizing, replacement or upgrades and feeder installation.
5. Audit antennae type, azimuth and tilt.
6. Electrical work like DB replacements and electric fence repairs.
7. Power supply maintenance, upgrade and repair from Landlord, Eskom or municipality
8. Earthing upgrades or repairs
9. Air conditioner replacements.
10. Equipment room repairs.
11. Pico Cell installations (With no distributed feeder system)
12. Site Plans to be drawn.
13. Container replacements
14. Trenching projects
15. De-commissioning and recovery of sites.
16. Installation and commissioning of permanent onsite standby generators

[redacted]

Annexures

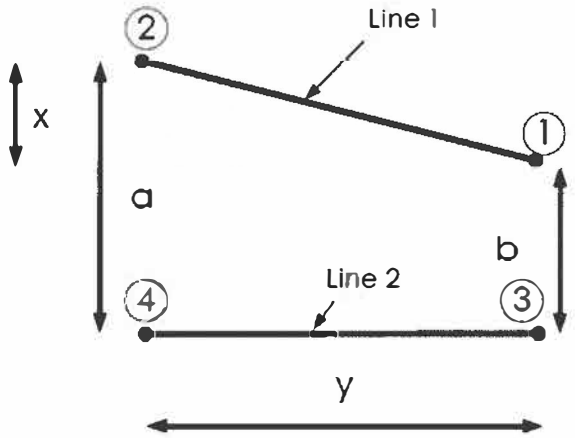
ANNEXURE A.1 PROFORMA AGENDA FOR PROJECT MEETING

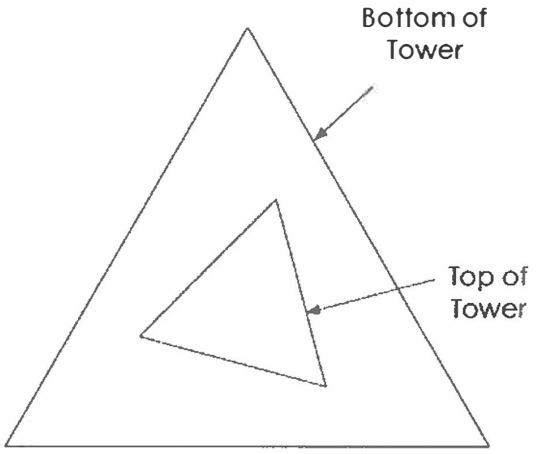
Note: Reports and invoices are to be submitted monthly.

1. Attendance and Apologies.
2. Acceptance of previous minutes.
3. Matters Arising
4. Implementation Matters
5. Status sites Lists
6. Update of Central Database
7. Share area problem reports. (Vodacom/Cell C or any other party)
8. Maintenance Reports for this period
9. Fault reports & photos and record agreed action plans where necessary.
10. Maintenance routes for forthcoming month.
11. Current Budget status / Invoices received
12. Confirmation of verbal instructions and quotes for extra-ordinary / add-hoc items
13. Training
14. Disaster recovery planning
15. Reference Docs: Tools lists, approved materials, method statements.
16. Communication / Frustrations
17. General.
18. Next Meeting Date:

[redacted]

ANNEXURE A.2 MEASUREMENT OF TWIST ON SITE





1: Mark out two lines (lines 1 & 2) on the ground parallel to the face of the tower at the top and at the bottom. y should be at least 10m long. The points 1, 2, 3, 4 can be obtained by lining up two legs of one face by eye and dropping a stone from one's eye.
Mark where the stone lands on the ground.

2: Measure the distances a(= 2 to 4): b(= 1 to 3); y(= 4 to 3).

3: Calculate x = a - b; calculate x/y; read twist from table.

X/Y	TWIST
0.176	10 deg
0.141	8 deg
0.105	6 deg
0.070	4 deg
0.035	2 deg
0.017	1 deg

[redacted]

ANNEXURE A.3 BOLT TORQUES

The various suppliers have differing erection torques for each bolt size however it was agreed that maintenance crews would check bolts only to within about 80% of the erection torques.

The table below shows the reduced torques.

Although we are applying uniformity to all the bolts sizes it must be remembered that open-ended pipe connections have lower torque specification as indicated below.

These lower toques do not apply to crimped pipe-ends.

MAINTENANCE TORQUES (Nm)			
DIAMETER	**Black Bolt (Grade 4.6)**	**High Tensile (Grade 8.8)**	**Stainless Steel (Grade 304)**
M10	17	47	16
M12	31	82	29
M16	76	202	74
M20	148	394	120
M24	255	681	208
M27	373	996	
M30			240
PIPE CONNECTIONS			
M10		14	
M12		25	
M16		61	
M20		119	

[redacted]

ANNEXURE A.4.1 TOWER MAINTENANCE REPORT

Site No.									
Site Name									
Visit Type									
Visit Date									
Maintenance Contractor Name									
Chk Lst No	**Short Description**								
I	Site Access Ref No.								
II	GPS co-ordinates correct?								
A1	Signs of Erosion?								
A2	Signs of Settlement?								
A3	Foundation cracks?								
A4	Concrete and grouting spalling?								
A5	Drainage Holes ?								
A6	Rusting Pipe members?								
A7	Movement at tower Joints?								
A8	Fastners corroding?								
A9	Antenna mounts, booms, brackets?								
A10	Antenna Safety Slings								
A11	Paint Condition?								
A12	Weld cracks?								
A13	Amount of Tower Twist?								
A14	Tower kinks?								
A15	Cable Condition?								
A16	Feeder and Telkom entries?								
A17	Monopole doors?								
A18	Earthing system?								
A19	AC Warning lights functioning?								
A20	Monopole interior cat ladder lights?								

[redacted]

[redacted]

A21	No off, type, ht antennas correct?								
A21.1	Antenna type: Panel / Omni								
A21.2	Ht of antenna: Panel / Omni								
A21.3	Antenna type: Microwave dish: size								
A21.4	Ht of antenna: Microwave dish								
A21.5	Antenna type: Other								
A21.6	Ht of antenna: Other								
A21.7	Antenna type: Other 2nd								
A21.8	Ht of antenna: Other 2nd								
A21.9	Ht of tower to top								
A22	Stay Cables On Towers								
A23	Fall Arrest system?								
A24	New Problems?								
A25	Fault and Data photos								
A26	Complete fault report?								

One or two word comments e.g. None, Cleared, FR = Fault report, oiled, OK

ANNEXURE A.4.2 FULL FIELD MAINTENANCE REPORT

[redacted]

[redacted]

Site No.									
Site Name									
Visit Type									
Visit Date									
Maintenance Contractor Name									
Chk Lst No	Short Description								
I	Site Access Ref No.								
Ii	GPS co-ordinates correct?								
B1	Access road condition?								
B2	Perimeter fence condition?								
B3	Safety Signs?								
B4	Overgrowth ingress on perimeter?								
B5	Crushed stone?								
B6	Container condition?								
B7	Brick room condition?								
B8	Equipment room Door and Seals?								
B9	Air conditioner?								
B10	Apron?								
B11	Rubble roof-; cable tray-?								
B12	Feeder Manhole?								
B13	Expansion Joint Sealant?								
B14	Digital photos of problem areas?								
B15	3 reports prepared?								
	Close Site ref ?								

Note: Please ensure that each cell is filled in with a short 1or 2 word comment or refer to fault report attached

ANNEXURE A.4.3 MINOR FIELD MAINTENANCE REPORT

Site No.								

[redacted]

[redacted]

Site Name									
Visit Type									
Visit Date									
Maintenance Contractor Name									
Chk Lst No	Short Description								
I	Site Access Ref No.								
Ii	GPS co-ordinates correct?								
C1	Access road condition?								
C2	Perimeter fence condition?								
C3	Container condition?								
C4	Brick room condition?								
C5	Air conditioner condition?								
C6	Slabs and under-slab condition?								
C7	Container roof-; cable tray-; rubble								
C8	Digital photos of problem areas?								
C9	3 reports prepared?								
	Close Site ref ?								

Note: Please ensure that each cell is filled in with a short 1or 2 word comment or refer to fault report attached

ANNEXURE A.4.4 ELECTRICAL MAINTENANCE REPORT

Site No.							
Site Name							
Visit Type							

[redacted]

[redacted]

Visit Date								
Maintenance Contractor Name								
Chk Lst No	Short Description	Remarks						
J1	Air conditioner 1							
J1.1	Air conditioner 2							
J1.2	CK 12 unit							
J2	Earth reading between container base and 3 x ground points							
J2.1	Earth reading between fence corner posts and 3 x ground points							
J2.2	Earth entry plate earthing							
J2.3	Rectifier earthing cable connected							
J2.4	RBS earthing cable connected							
J2.5	Transmission cabinet earthing cable connected							
J2.6	DB earthing between main earth & 3 x ground points							
J2.7	Meter box earthing between earth & 3 x ground points							
J3	DB infrared test							
J3.1	DB circuit breakers (visual)							
J3.2	DB volt meter (mechanical / visual test)							
J3.3	DB mains/generator selector switch							
J3.4	DB generator plug							
J3.5	DB general condition							
J4	DB measurement loop test live & earth value							
J4.1	DB measurement live neutral value							
J4.2	DB measurement white neutral value							
J4.3	DB measurement blue neutral value							
J4.4	DB measurement neutral earth value							
J4.5	Plugs measurement earth leakage							
J4.6	Plug visual inspection							
J5	Condition of battery string 1							

[redacted]

[redacted]

J5.1	Condition of battery string 2							
J5.2	Condition of battery string 3							
J6.1	Light switches							
J6.2	Aviation lights							
J6.3	Aviation light supply							
J6.4	Electrical fence							

FAULTS REPAIRED

FAULTS OUTSTANDING

ANNEXURE A.4.5 MONTHLY FAULT REPORT

Note: This report is to be filled in for each monthly progress meeting (EG Copy to new Excel sheet)

Maintenance Contractor Name :							
Month :							
Site No.	**Site Name**	**Visit Date**	**Chk Lst No**	**Item Short Description**	**Short description of Fault found**	**Short description of corrective**	**Date Signed off**

[redacted]

[redacted]

						action taken / agreed	

ANNEXURE A.4.6 MONTHLY VISIT REPORT

[redacted]

[redacted]

Maint Type	Quantity	Maint Type	Quantity	Maint Type	Quantity	Maint Type	Quantity			Field Rural Field Urban Rooftop	Lattice Concrete Monopole Steel Monopole Other VC Share		Date Last Visit		Planned visit dates				
See Maintenance Schedule								Region	Area	Site Type	Tower Type	HT	Tower	Field	Tower	Field 1	Field 2	Field 3	Field 4

ANNEXURE A.5 ROUTE PLANNER

Note: This form is to be agreed with the Client prior to embarking on trip.

Route No. or Description			**From base or prev. site en-route**	**Tower Site Rooftop**
Route	**Site No**	**Site Name**	**Distance**	**Visit type**

[redacted]

ANNEXURE A.6 TOWER AUDIT SHEET

Survey Date: . . . . . .

Surveyed by: . . . . . .

SECTION 1

1.1 Site Details

Region: . . . . . .

Site Name: . . . . . .

Site T No.: . . . . . .

Tower Type: . . . . . (I.e. Lattice/Concrete Mono Pole/etc)

Tower Height: . . . . . .

Site Altitude: . . . . . (GPS altitude reading at base of Tower)

Artificial Base Height :(to be calculated) . . . . . .

Tower Leg Foot Print width: . . . . . (Heel to Heel on Angle Towers & Centre to Centre on CHS Towers)

1.2 Tower Information

Tower manufacturer (if known): . . . . . .

Towers code name (if known): . . . . . .

Design audit ref no. (if known):. . . . . .

Tower Type (tick correct option)	**Lattice**	**Pole**
Leg Type (tick correct option)	CHS	Equal Angle
Bracing Type (tick correct option)	CHS	Equal Angle

CHS – Circular Hollow Sections

[redacted]

1.3 Loading on Tower

Antenna/ Boom/ Item	Size - Length x Breadth or Diameter	Height on Tower	Number of	Azimuth(Leg)	Owner of Antenna	Catalog no.

See fig. 1 for Azimuth Details

Note: If Antenna Catalogue number is not known, then the full antenna dimensions must be measured and recorded (Length, Breadth and depth)

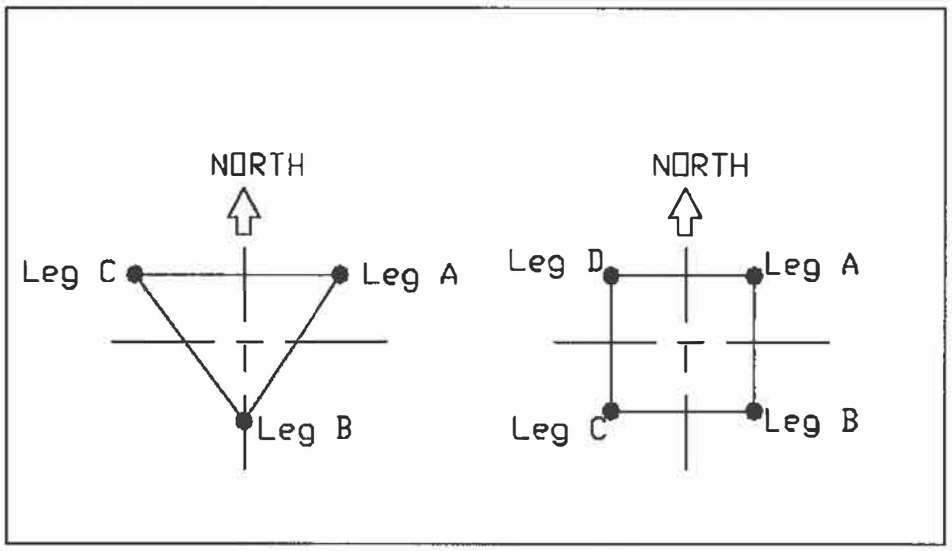


Figure 1

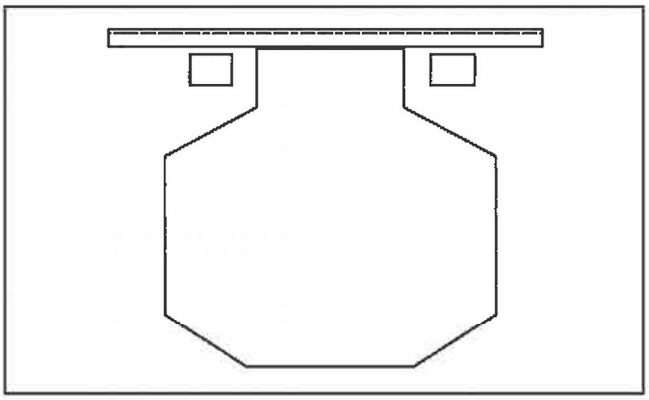
[redacted]

1.4 Feeders

Shade feeders present:

O O O O O O O O
O O O O O O O O
O O O O O O O O
O O O O O O O O
O O O O O O O O
O O O O O O O O

Tick a box to show position of feeders.



Feeder Cable Sizes:
7/8" (28mm) = a
11/4" (40mm) = b
15/8" (50mm) = c
½" (13mm) = d (i.e. Telkom/third party feeder)

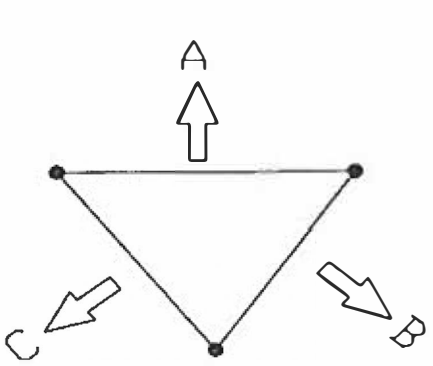
1.5 Tower Site Risk Evaluation

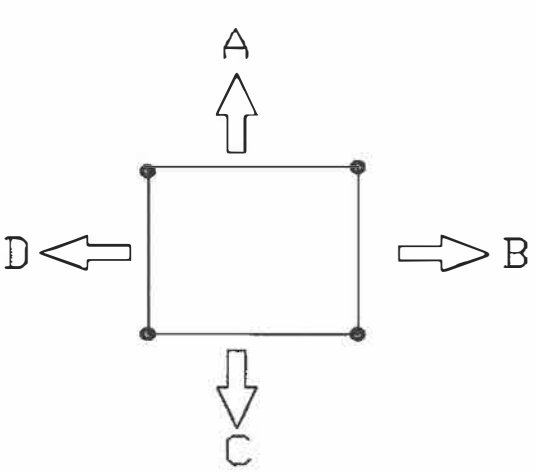
Is the area around the tower site populated?	Yes	No
Indicate the closest distance of tower site to nearest dwelling.		
Indicate dwelling type e.g. Flats, Shelter, School, Shops etc.		

SECTION 2

2.1 Terrain Category

[redacted]





Tower sides	Side A	Side B	Side C	Side D
General description, e.g. – Suburb, Informal, Settlement, Farmlands, City, Sea Coast, etc.				
General height of obstructions*				
General distance between obstruction				
Depth of terrain category**				
Terrain category = (writer assessment, see general description after section 3)				

** Obstruction e.g.- Trees, Building, Shrubs, etc*
*** Indicate an approximate distance away from the tower site to which the above described terrain cat extends.*

General topography e.g. mountains, hilly, flat, etc.	

2.2 Determination of False Datum Height

GPS Readings

Position	A
Latitude Latitude	
Longitude Longitude	
Altitude Altitude	

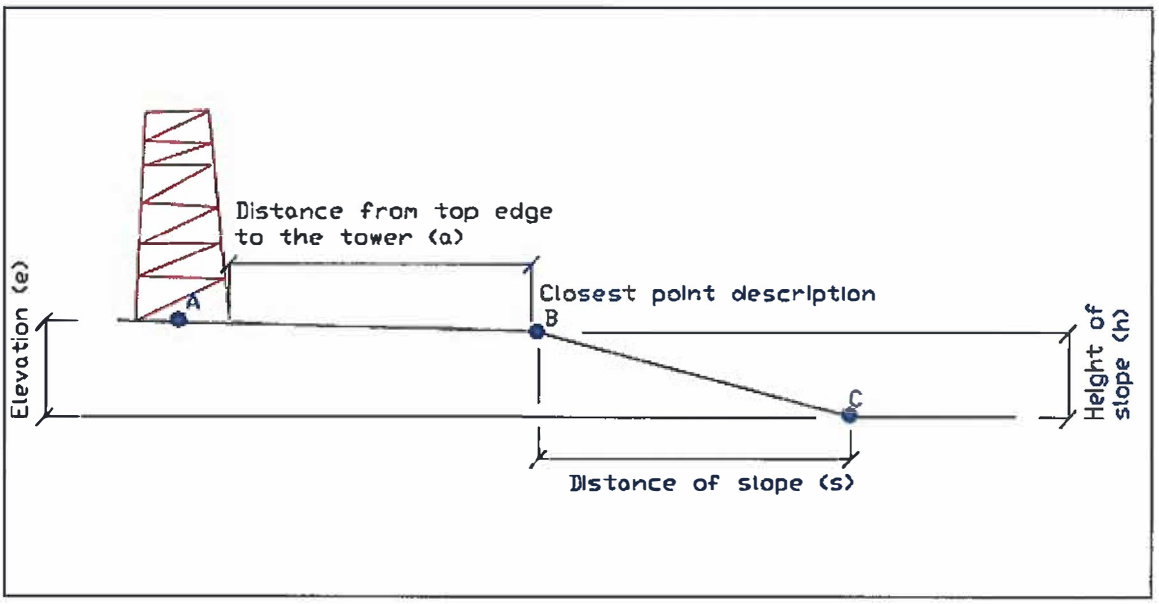
Position	B
Latitude Latitude	
Longitude Longitude	
Altitude Altitude	

Position	C
Latitude Latitude	
Longitude Longitude	
Altitude Altitude	

Position	D
Latitude Latitude	
Longitude Longitude	
Altitude Altitude	

NB. Please see positions of A,B and C on the sketch below.

[redacted]



SECTION 3

Photo Check List:

	Tick
Photos of all Antennae (3/4 sides of tower – Close-up showing all antennae on each side).	
Photos of tower Base and Foundation.	
Photos of Cable Tray arrangement on Tower.	
360 deg Panoramic Photo or Video of Terrain Category around the tower site. (From elevation of approximately 8-15m. Platform level on Monopole)	
Photo from Cross Nest looking down.(No zoom)	

General Terrain Category

According to SABS 0160 – 1989

Category 1: Exposed smooth terrain with virtually no obstructions and in which height of any obstruction is less than 1,5m.This category includes open sea coasts, lake shores and flat, treeless plains with little vegetation other than short grass.

Category 2: Open terrain with widely spaced obstruction (more than 100m apart) having heights and plan dimensions generally between 1.5m and 10m.This category includes large airfields, open parklands or farmlands and underdeveloped outskirts of towns and suburbs, with few trees. This is the category on which the regional basic wind speed V is based.

Category 3: Terrain having numerous closely spaced obstructions generally having the size of domestic houses. This category includes wooded areas and suburbs, towns and industrial areas, fully or substantially developed.

Category 4: Terrain with numerous large, tall, closely - spaced obstructions. This category includes large city centres.

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PART 5 : PRICING SCHEDULE

NOTE: All descriptions or clauses where trade names or proprietary products are specified herein are deemed to include the phrase: "or equivalent".

Pricing Instructions:

1.1 State the rates and prices in Rand unless instructed otherwise in the tender conditions.

1.2 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the General Tender Information.

1.3 All prices tendered must include all expenses, disbursements and costs (e.g. transport, accommodation etc.) that may be required for the execution of the tenderer's obligations in terms of the Contract, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the Contract as well as overhead charges and profit (in the event that the tender is successful). All prices tendered will be final and binding.

1.4 All prices shall be tendered in accordance with the units specified in this schedule.

1.5 Where a value is given in the Quantity column, a Rate and Price (the product of the Quantity and Rate) is required to be inserted in the relevant columns.

5.6 The successful tenderer is required to perform all tasks listed against each item. The tenderer must therefore tender prices/rates on all items as per the section in the Price Schedule. **An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.**

5.7 Mark-up percentage (%) method is used where a mark-up percentage is applied to the current list price of proposed **goods** for this tender as supplied by the Original Equipment Manufacturer(s) OEM or distributor.

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- Mark-up percentage (%) is the mark-up amount as expressed as a percentage (%) of the OEM price by applying the formula:
  Mark-up % = (Mark-up amount ÷ OEM Price) × 100.

ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	Rate / Price for Year 1	Rate / Price for Year 2	Rate / Price for Year 3	Rate / Price for Year 4	Rate / Price for Year 5	Mark-up %	Markup Value
Pick	Formula	Formula	Capture	Capture	Capture	Capture	Capture	Capture	Capture
A.1.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 1A Core Switching Facility – Large – constructed at Full design: Preventative Maintenance Services for Electrical Installations: Electrical Installations Daily Preventative Maintenance Service	Per day	R 2.21	R 2.33	R 2.45	R 2.58	R 2.71		
A.1.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 124.19	R 130.73	R 137.61	R 144.85	R 152.47		

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A.1.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month per qurter	R 538.17	R 566.49	R 596.31	R 627.69	R 660.73	
A.1.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per year	R 1 009.07	R 1 062.18	R 1 118.08	R 1 176.93	R 1 238.87	
A.1.1.5	Electrical Installations Annual Preventative Maintenance Service	Per day	R 1 614.51	R 1 699.48	R 1 788.93	R 1 883.08	R 1 982.19	
	Preventative Maintenance Services for Air Conditioning Systems:							
A.1.2.1	Air Conditioning Systems Daily Preventative Maintenance Service	Per 2-week cycle	R 15.92	R 16.76	R 17.64	R 18.57	R 19.55	
A.1.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	per month	R 894.19	R 941.25	R 990.79	R 1 042.94	R 1 097.83	
A.1.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per qurter	R 3 874.82	R 4 078.76	R 4 293.43	R 4 519.40	R 4 757.26	
A.1.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service		R 8 718.34	R 9 177.20	R 9 660.21	R 10 168.64	R 10 703.83	

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		per year						
A.1.2.5	Air Conditioning Systems Annual Preventative Maintenance Service	Per day	R 5 812.22	R 6 118.13	R 6 440.13	R 6 779.09	R 7 135.88	
	Preventative Maintenance Services for Fire Detection Systems:							
A.1.3.1	Fire Detection Systems Daily Preventative Maintenance Service	Per 2-week cycle	R 1.36	R 1.43	R 1.51	R 1.59	R 1.67	
A.1.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	per month	R 76.54	R 80.57	R 84.81	R 89.27	R 93.77	
A.1.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	per qurter	R 248.77	R 261.86	R 275.65	R 290.15	R 305.42	
A.1.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service	per year	R 1 990.13	R 2 094.87	R 2 205.13	R 2 321.19	R 2 443.36	
A.1.3.5	Fire Detection Systems Annual Preventative Maintenance Service		R 497.53	R 523.72	R 551.28	R 580.29	R 610.84	

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		Per day					
A.1.4.1	Preventative Maintenance Services for Fire Suppression Systems: Fire Suppression Systems Daily Preventative Maintenance Service		R 3.05	R 3.21	R 3.38	R 3.56	R 3.74
A.1.4.2	Fire Suppression Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 171.50	R 180.53	R 190.03	R 200.03	R 210.56
A.1.4.3	Fire Suppression Systems Monthly Preventative Maintenance Service	per month	R 557.39	R 586.73	R 617.61	R 650.11	R 684.33
A.1.4.4	Fire Suppression Systems 6-monthly Preventative Maintenance Service	6-montly	R 4 459.11	R 4 693.80	R 4 940.84	R 5 200.89	R 5 474.62
A.1.4.5	Fire Suppression Systems Annual Preventative Maintenance Service	per year	R 1 114.78	R 1 173.45	R 1 235.21	R 1 300.22	R 1 363.66
		Per day					
A.1.5.1	Preventative Maintenance Services for UPS and Rectifier DC Systems: UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 3.90	R 4.11	R 4.32	R 4.55	R 4.79

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A.1.5.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 218.82	R 230.34	R 242.46	R 255.22	R 268.65	
A.1.5.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service	per month	R 711.15	R 748.58	R 787.98	R 829.45	R 873.11	
A.1.5.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	6-montly	R 5 689.21	R 5 988.64	R 6 303.83	R 6 635.61	R 6 984.86	
A.1.5.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	per year	R 1 422.30	R 1 497.16	R 1 575.96	R 1 658.90	R 1 746.21	
		Per day						
A.1.6.1	Preventative Maintenance Services for Generators: Generators Daily Preventative Maintenance Service		R 3.35	R 3.53	R 3.71	R 3.91	R 4.11	
A.1.6.2	Generators Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 187.98	R 197.87	R 208.29	R 219.25	R 230.79	
A.1.6.3	Generators Monthly Preventative Maintenance Service	per month	R 610.93	R 643.08	R 676.93	R 712.56	R 750.06	
A.1.6.4	Generators Quarterly Preventative Maintenance Service	per qurter	R 244.73	R 2 572.35	R 2 707.73	R 2 850.25	R 3 000.26	

A.1.6.5	Generators Annual Preventative Maintenance Service	per year Per day	R 1 221.86	R 1 286.17	R 1 353.86	R 1 425.12	R 1 500.12
	Preventative Maintenance Services for Building Management System:						
A.1.7.1	Building Management System Daily Preventative Maintenance Service		R 3.44	R 3.62	R 3.81	R 4.01	R 4.22
		Per 2-week cycle					
A.1.7.2	Building Management System Fortnightly Preventative Maintenance Service		R 193.13	R 203.29	R 213.99	R 225.26	R 237.11
		per qurter					
A.1.7.3	Building Management System Quarterly Preventative Maintenance Service		R 627.68	R 660.72	R 695.49	R 732.10	R 770.63
		6-montly					
A.1.7.4	Building Management System 6-monthly Preventative Maintenance Service		R 5 021.45	R 5 285.74	R 5 563.93	R 5 856.77	R 6 165.02
		per year					
A.1.7.5	Building Management System Annual Preventative Maintenance Service		R 1 255.36	R 1 321.43	R 1 390.98	R 1 464.19	R 1 541.25

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A1.8.1	Preventative Maintenance Services for Security and Surveillance System: Security and Surveillance System Daily Preventative Maintenance Service	Per day	R 4.55	R 4.79	R 5.04	R 5.31	R 5.59	
A1.8.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 255.48	R 268.93	R 283.08	R 297.98	R 313.66	
A1.8.3	Security and Surveillance System Monthly Preventative Maintenance Service	per qurter	R 830.32	R 874.02	R 920.02	R 968.44	R 1 019.42	
A1.8.4	Security and Surveillance System 6-monthly Preventative Maintenance Service	6-montly	R 6 642.54	R 6 992.15	R 7 360.16	R 7 747.53	R 8 155.30	
A1.8.5	Security and Surveillance System Annual Preventative Maintenance Service	per year	R 1 660.64	R 1 748.04	R 1 840.04	R 1 936.89	R 2 038.83	

		Per day						
A.1.9.1	Preventative Maintenance Services for Access Control System: Access Control System Daily Preventative Maintenance Service		R 3.16	R 3.33	R 3.50	R 3.69	R 3.88	
A.1.9.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 177.42	R 186.76	R 196.59	R 206.93	R 217.83	
A.1.9.3	Access Control System Monthly Preventative Maintenance Service	per qurter	R 576.61	R 606.96	R 638.90	R 672.53	R 707.93	
A.1.9.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 4 612.88	R 4 855.66	R 5 111.22	R 5 380.24	R 5 663.41	
A.1.9.5	Access Control System Annual Preventative Maintenance Service	per year	R 1 153.22	R 1 213.92	R 1 277.81	R 1 345.06	R 1 415.85	
		Per 2-week cycle						
	A.1.10. Preventative Maintenance Services on Building Condition and Facility Fabric:							
A.1.10.1	Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service		R 66.15	R 69.63	R 73.30	R 77.15	R 81.21	

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		per month					
A.1.10.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 286.66	R 301.75	R 317.63	R 334.35	R 351.94
A.1.10.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 289.96	R 1 357.85	R 1 429.32	R 1 504.55	R 1 583.73
A.1.10.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service	Per day	R 6 879.79	R 7 241.88	R 7 623.04	R 8 024.25	R 8 446.58
A.2.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 1B Switching Facility – Large – constructed at N+1 design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 2.24	R 2.36	R 2.48	R 2.61	R 2.75

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A.2.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 125.87	R 132.49	R 139.47	R 146.81	R 154.54	
A.2.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 545.42	R 574.13	R 604.34	R 636.15	R 669.63	
A.2.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 1 022.67	R 1 076.49	R 1 133.15	R 1 192.79	R 1 255.57	
A.2.1.5	Electrical Installations Annual Preventative Maintenance Service	per year	R 1 636.27	R 1 722.39	R 1 813.04	R 1 908.46	R 2 008.91	
		Per day						
	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2):							
A.2.2.1	Air Conditioning Systems Daily Preventative Maintenance Service		R 12.09	R 12.73	R 13.40	R 14.10	R 14.84	
A.2.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 678.88	R 714.61	R 752.22	R 791.81	R 833.49	

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A.2.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per month per qurter	R 2 941.83	R 3 091.66	R 3 259.65	R 3 431.21	R 3 611.80
A.2.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service	per year	R 6 619.11	R 6 967.48	R 7 334.19	R 7 720.20	R 8 126.53
A.2.2.5	Air Conditioning Systems Annual Preventative Maintenance Service	Per day	R 4 412.74	R 4 644.99	R 4 889.46	R 5 146.80	R 5 417.69
	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3):						
A.2.3.1	Fire Detection Systems Daily Preventative Maintenance Service	Per 2-week cycle	R 1.47	R 1.55	R 1.63	R 1.71	R 1.80
A.2.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	per month	R 82.58	R 86.93	R 91.50	R 96.32	R 101.39
A.2.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	6-montly	R 268.39	R 282.52	R 297.39	R 313.04	R 329.51
A.2.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service		R 2 147.14	R 2 260.15	R 2 379.10	R 2 504.32	R 2 636.12

		per year						
A.2.3.5	Fire Detection Systems Annual Preventative Maintenance Service	Per day	R 536.78	R 565.03	R 594.77	R 626.07	R 659.03	
	Preventative Maintenance Services for Fire Suppression Systems (Refer 5.4.1.4):							
A.2.4.1	Fire Suppression Systems Daily Preventative Maintenance Service		R 3.31	R 3.48	R 3.67	R 3.86	R 4.06	
A.2.4.2	Fire Suppression Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 185.86	R 195.64	R 205.94	R 216.78	R 228.19	
A.2.4.3	Fire Suppression Systems Monthly Preventative Maintenance Service	per month	R 604.04	R 635.83	R 669.30	R 704.52	R 741.60	
A.2.4.4	Fire Suppression Systems 6-monthly Preventative Maintenance Service	6-montly	R 4 832.30	R 5 086.63	R 5 354.35	R 5 636.16	R 5 932.80	
A.2.4.5	Fire Suppression Systems Annual Preventative Maintenance Service	per year	R 1 208.07	R 1 271.65	R 1 338.58	R 1 409.03	R 1 483.19	

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		Per day					
	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5):						
A.2.5.1	UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 4.01	R 4.22	R 4.44	R 4.68	R 4.92
		Per 2-week cycle					
A.2.5.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service		R 225.35	R 237.21	R 249.70	R 262.84	R 276.67
		per month					
A.2.5.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service		R 732.37	R 770.92	R 811.49	R 854.20	R 899.16
		6-montly					
A.2.5.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service		R 5 858.98	R 6 167.35	R 6 491.94	R 6 833.63	R 7 193.29
		per year					
A.2.5.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service		R 1 464.74	R 1 541.83	R 1 622.98	R 1 708.40	R 1 798.32
		Per day					
	Preventative Maintenance Services for Generators (Refer 5.4.1.6):						
A.2.6.1	Generators Daily Preventative Maintenance Service		R 4.32	R 4.55	R 4.79	R 5.04	R 5.30

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A.2.6.2	Generators Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 242.34	R 255.09	R 268.52	R 282.65	R 297.53	
A.2.6.3	Generators Monthly Preventative Maintenance Service	per month	R 787.59	R 829.04	R 872.68	R 918.61	R 966.95	
A.2.6.4	Generators Quarterly Preventative Maintenance Service	per qurter	R 3 150.37	R 3 316.18	R 3 490.71	R 3 674.44	R 3 867.83	
A.2.6.5	Generators Annual Preventative Maintenance Service	per year	R 1 575.19	R 1 658.09	R 1 745.36	R 1 837.22	R 1 933.92	
		Per day						
	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7):							
A.2.7.1	Building Management System Daily Preventative Maintenance Service		R 3.65	R 3.84	R 4.04	R 4.26	R 4.48	
A.2.7.2	Building Management System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 205.03	R 215.82	R 227.18	R 239.14	R 251.72	
		per qurter						
A.2.7.3	Building Management System Quarterly Preventative Maintenance Service		R 666.35	R 701.42	R 738.34	R 777.20	R 818.10	

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		6-montly							
A.2.7.4	Building Management System 6-monthly Preventative Maintenance Service	per year	R 5 330.83	R 5 611.40	R 5 906.74	R 6 217.62	R 6 544.86		
A.2.7.5	Building Management System Annual Preventative Maintenance Service	Per day	R 1 332.71	R 1 402.85	R 1 476.69	R 1 554.41	R 1 636.22		
	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8):								
A2.8.1	Security and Surveillance System Daily Preventative Maintenance Service	Per 2-week cycle	R 5.05	R 5.32	R 5.60	R 5.89	R 6.20		
A2.8.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	per month	R 283.63	R 298.56	R 314.27	R 330.81	R 348.22		
A2.8.3	Security and Surveillance System Monthly Preventative Maintenance Service	6-montly	R 921.79	R 970.31	R 1 021.37	R 1 075.13	R 1 131.72		
A2.8.4	Security and Surveillance System 6-monthly Preventative Maintenance Service		R 7 374.31	R 7 762.43	R 8 170.98	R 8 601.03	R 9 053.72		

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		per year						
A2.8.5	Security and Surveillance System Annual Preventative Maintenance Service	Per day	R 1 843.58	R 1 940.61	R 2 042.75	R 2 150.26	R 2 263.43	
A.2.9.1	Preventative Maintenance Services for Access Control System (Refer 5.4.1.9): Access Control System Daily Preventative Maintenance Service		R 3.31	R 3.48	R 3.67	R 3.86	R 4.06	
A.2.9.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 185.67	R 195.44	R 205.73	R 216.56	R 227.95	
A.2.9.3	Access Control System Monthly Preventative Maintenance Service	per month	R 603.42	R 635.18	R 668.61	R 703.80	R 740.84	
A.2.9.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 4 827.36	R 5 081.43	R 5 348.88	R 5 630.40	R 5 926.73	
A.2.9.5	Access Control System Annual Preventative Maintenance Service	per year	R 1 206.84	R 1 270.36	R 1 337.22	R 1 407.60	R 1 481.68	

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		Per 2-week cycle						
A.2.10.1	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1.10): Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	per month	R 66.64	R 70.15	R 73.84	R 77.73	R 81.82	
A.2.10.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 288.75	R 303.95	R 319.94	R 336.78	R 354.51	
A.2.10.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 299.39	R 1 367.78	R 1 439.77	R 1 515.54	R 1 595.31	
A.2.10.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 6 930.08	R 7 294.82	R 7 678.76	R 8 082.90	R 8 508.32	

			Per day						
A.3.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 2 Switching Facility – Medium – constructed at N+1 design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 1.91	R 2.01	R 2.12	R 2.23	R 2.34		
A.3.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 107.25	R 112.89	R 118.84	R 125.09	R 131.67		
A.3.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 464.74	R 489.20	R 514.95	R 542.05	R 570.58		
A.3.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 871.39	R 917.25	R 965.53	R 1 016.35	R 1 069.84		

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		per year							
A.3.1.5	Electrical Installations Annual Preventative Maintenance Service	Per day	R 1 394.23	R 1 467.61	R 1 544.85	R 1 626.16	R 1 711.75		
	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2):								
A.3.2.1	Air Conditioning Systems Daily Preventative Maintenance Service		R 9.80	R 10.32	R 10.86	R 11.43	R 12.03		
A.3.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 550.50	R 579.47	R 609.97	R 642.08	R 675.87		
A.3.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per month	R 2 385.51	R 2 511.06	R 2 643.22	R 2 782.34	R 2 928.78		
A.3.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service	per qurter	R 5 367.39	R 5 649.88	R 5 947.25	R 6 260.26	R 6 589.75		
A.3.2.5	Air Conditioning Systems Annual Preventative Maintenance Service	per year	R 5 378.26	R 3 766.59	R 3 964.83	R 4 173.51	R 4 393.16		

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		Per day						
A.3.3.1	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3): Fire Detection Systems Daily Preventative Maintenance Service		R 1.47	R 1.55	R 1.63	R 1.71	R 1.80	
A.3.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 82.45	R 86.79	R 91.36	R 96.17	R 101.23	
A.3.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	per month	R 267.97	R 282.07	R 296.92	R 312.55	R 329.00	
A.3.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service	6-montly	R 2 143.73	R 2 256.56	R 2 375.32	R 2 500.34	R 2 631.94	
A.3.3.5	Fire Detection Systems Annual Preventative Maintenance Service	per year	R 535.93	R 564.14	R 593.83	R 625.08	R 657.98	
		Per day						
A.3.4.1	Preventative Maintenance Services for Fire Suppression Systems (Refer 5.4.1.4): Fire Suppression Systems Daily Preventative Maintenance Service		R 3.34	R 3.52	R 3.70	R 3.90	R 4.10	

A.3.4.2	Fire Suppression Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 187.43	R 197.29	R 207.68	R 218.61	R 230.11	
A.3.4.3	Fire Suppression Systems Monthly Preventative Maintenance Service	per month	R 609.14	R 641.20	R 674.95	R 710.47	R 747.86	
A.3.4.4	Fire Suppression Systems 6-monthly Preventative Maintenance Service	6-montly	R 4 873.10	R 5 129.58	R 5 399.56	R 5 683.74	R 5 982.89	
A.3.4.5	Fire Suppression Systems Annual Preventative Maintenance Service	per year	R 1 218.27	R 1 282.39	R 1 349.88	R 1 420.93	R 1 495.72	
		Per day						
	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5):							
A.3.5.1	UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 3.57	R 3.76	R 3.96	R 4.16	R 4.38	
A.3.5.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 200.65	R 211.21	R 222.33	R 234.03	R 246.35	
A.3.5.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service	per month	R 652.12	R 686.44	R 722.57	R 760.60	R 800.63	

		6-montly						
A.3.5.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	per year	R 5 216.95	R 5 491.53	R 5 780.55	R 6 084.79	R 6 405.05	
A.3.5.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	Per day	R 1 304.24	R 1 372.88	R 1 445.14	R 1 521.20	R 1 601.26	
	Preventative Maintenance Services for Generators (Refer 5.4.1.6):							
A.3.6.1	Generators Daily Preventative Maintenance Service	Per 2-week cycle	R 4.43	R 4.66	R 4.91	R 5.17	R 5.44	
A.3.6.2	Generators Fortnightly Preventative Maintenance Service	per month	R 248.90	R 262.00	R 275.79	R 290.30	R 305.58	
A.3.6.3	Generators Monthly Preventative Maintenance Service	per qurter	R 808.94	R 851.52	R 896.33	R 943.51	R 993.17	
A.3.6.4	Generators Quarterly Preventative Maintenance Service	per year	R 3 235.75	R 3 406.05	R 3 585.32	R 3 774.02	R 3 972.65	
A.3.6.5	Generators Annual Preventative Maintenance Service		R 1 617.87	R 1 703.02	R 1 792.65	R 1 887.00	R 1 986.32	

		Per day							
A.3.7.1	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7): Building Management System Daily Preventative Maintenance Service		R 3.65	R 3.84	R 4.04	R 4.26	R 4.48		
A.3.7.2	Building Management System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 205.03	R 215.82	R 227.18	R 239.14	R 251.72		
A.3.7.3	Building Management System Quarterly Preventative Maintenance Service	per qurter	R 666.35	R 701.42	R 738.34	R 777.20	R 818.10		
A.3.7.4	Building Management System 6-monthly Preventative Maintenance Service	6-montly	R 5 330.83	R 5 611.40	R 5 906.74	R 6 217.62	R 6 544.86		
A.3.7.5	Building Management System Annual Preventative Maintenance Service	per year	R 1 332.71	R 1 402.85	R 1 476.69	R 1 554.41	R 1 636.22		

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		Per day						
	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8):							
A.3.8.1	Security and Surveillance System Daily Preventative Maintenance Service		R 5.05	R 5.32	R 5.60	R 5.89	R 6.20	
A.3.8.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 283.63	R 298.56	R 314.27	R 330.81	R 348.22	
A.3.8.3	Security and Surveillance System Monthly Preventative Maintenance Service	per month	R 921.79	R 970.31	R 1 021.37	R 1 075.13	R 1 131.72	
A.3.8.4	Security and Surveillance System 6-monthly Preventative Maintenance Service	6-montly	R 7 374.31	R 7 762.43	R 8 170.98	R 8 601.03	R 9 053.72	
A.3.8.5	Security and Surveillance System Annual Preventative Maintenance Service	per year	R 1 843.58	R 1 940.61	R 2 042.75	R 2 150.26	R 2 263.43	

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		Per day							
A.3.9.1	Preventative Maintenance Services for Access Control System (Refer 5.4.1.9): Access Control System Daily Preventative Maintenance Service		R 3.31	R 3.48	R 3.67	R 3.86	R 4.06		
A.3.9.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 185.67	R 195.44	R 205.73	R 216.56	R 227.95		
A.3.9.3	Access Control System Monthly Preventative Maintenance Service	per month	R 603.42	R 635.18	R 668.61	R 703.80	R 740.84		
A.3.9.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 4 827.36	R 5 081.43	R 5 348.88	R 5 630.40	R 5 926.73		
A.3.9.5	Access Control System Annual Preventative Maintenance Service	per year	R 1 206.84	R 1 270.36	R 1 337.22	R 1 407.60	R 1 481.68		

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		Per 2-week cycle						
A.3.10.1	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1. 10): Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	per month	R 66.64	R 70.15	R 73.84	R 77.73	R 81.82	
A.3.10.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 288.75	R 303.95	R 319.94	R 336.78	R 354.51	
A.3.10.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 299.39	R 1 367.78	R 1 439.77	R 1 515.54	R 1 595.31	
A.3.10.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 6 930.08	R 7 294.82	R 7 678.76	R 8 082.90	R 8 508.32	

		Per day						
A.4.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 3 Switching Centre Facility – Small – constructed at N+1 design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 1.63	R 1.72	R 1.81	R 1.90	R 2.00	
A.4.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 91.35	R 96.16	R 101.22	R 106.55	R 112.15	
A.4.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 395.86	R 416.69	R 438.63	R 461.71	R 486.01	
A.4.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 747.24	R 781.31	R 822.43	R 865.71	R 911.28	

		per year							
A.4.1.5	Electrical Installations Annual Preventative Maintenance Service	Per day	R 1 187.58	R 1 250.08	R 1 315.88	R 1 385.13	R 1 458.04		
	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2):								
A.4.2.1	Air Conditioning Systems Daily Preventative Maintenance Service		R 6.56	R 6.91	R 7.27	R 7.65	R 8.05		
A.4.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 368.33	R 387.72	R 408.12	R 429.60	R 452.21		
A.4.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per month	R 1 596.10	R 1 680.11	R 1 768.53	R 1 861.61	R 1 959.59		
A.4.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service	per qurter	R 3 591.23	R 3 780.24	R 3 979.20	R 4 188.63	R 4 409.09		
A.4.2.5	Air Conditioning Systems Annual Preventative Maintenance Service	per year	R 2 394.16	R 2 520.17	R 2 652.81	R 2 792.43	R 2 939.40		

		Per day						
A.4.3.1	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3): Fire Detection Systems Daily Preventative Maintenance Service		R 1.27	R 1.34	R 1.41	R 1.48	R 1.56	
A.4.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 71.04	R 74.78	R 78.71	R 82.86	R 87.22	
A.4.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	per month	R 230.87	R 243.02	R 255.81	R 269.28	R 283.45	
A.4.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service	6-montly	R 1 846.92	R 1 944.13	R 2 046.45	R 2 154.16	R 2 267.53	
A.4.3.5	Fire Detection Systems Annual Preventative Maintenance Service	per year	R 461.73	R 486.03	R 511.61	R 538.54	R 566.88	
		Per day						
A.4.4.1	Preventative Maintenance Services for Fire Suppression Systems (Refer 5.4.1.4): Fire Suppression Systems Daily Preventative Maintenance Service		R 2.90	R 3.05	R 3.21	R 3.38	R 3.56	

A.4.4.2	Fire Suppression Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 162.83	R 171.40	R 180.42	R 189.92	R 199.91
A.4.4.3	Fire Suppression Systems Monthly Preventative Maintenance Service	per month	R 529.18	R 557.03	R 586.35	R 617.21	R 649.69
A.4.4.4	Fire Suppression Systems 6-monthly Preventative Maintenance Service	6-montly	R 4 233.48	R 4 456.29	R 4 690.84	R 4 937.72	R 5 197.60
A.4.4.5	Fire Suppression Systems Annual Preventative Maintenance Service	per year	R 1 058.37	R 1 114.07	R 1 172.71	R 1 234.43	R 1 299.40
		Per day					
	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5):						
A.4.5.1	UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 3.28	R 3.45	R 3.63	R 3.83	R 4.03
A.4.5.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 183.92	R 193.60	R 203.79	R 214.52	R 225.81
A.4.5.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service	per month	R 597.75	R 629.21	R 662.33	R 697.19	R 733.88

		6-montly						
A.4.5.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	per year	R 4 781.98	R 5 033.66	R 5 298.59	R 5 577.47	R 5 871.02	
A.4.5.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	Per day	R 1 195.49	R 1 258.41	R 1 324.64	R 1 394.36	R 1 467.75	
	Preventative Maintenance Services for Generators (Refer 5.4.1.6):							
A.4.6.1	Generators Daily Preventative Maintenance Service	Per 2-week cycle	R 3.89	R 4.09	R 4.31	R 4.54	R 4.78	
A.4.6.2	Generators Fortnightly Preventative Maintenance Service	per month	R 218.51	R 230.01	R 242.12	R 254.86	R 268.27	
A.4.6.3	Generators Monthly Preventative Maintenance Service	per qurter	R 710.17	R 747.55	R 786.89	R 828.31	R 871.90	
A.4.6.4	Generators Quarterly Preventative Maintenance Service	per year	R 2 840.68	R 2 990.19	R 3 147.57	R 3 313.23	R 3 487.61	
A.4.6.5	Generators Annual Preventative Maintenance Service		R 1 420.34	R 1 495.09	R 1 573.78	R 1 656.61	R 1 743.80	

		Per day						
	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7):							
A.4.7.1	Building Management System Daily Preventative Maintenance Service		R 2.97	R 3.13	R 3.29	R 3.46	R 3.65	
		Per 2-week cycle						
A.4.7.2	Building Management System Fortnightly Preventative Maintenance Service		R 166.63	R 175.40	R 184.63	R 194.35	R 204.58	
		per qurter						
A.4.7.3	Building Management System Quarterly Preventative Maintenance Service		R 541.54	R 570.04	R 600.04	R 631.63	R 664.87	
		6-montly						
A.4.7.4	Building Management System 6-monthly Preventative Maintenance Service		R 4 332.28	R 4 560.29	R 4 800.31	R 5 052.96	R 5 318.90	
		per year						
A.4.7.5	Building Management System Annual Preventative Maintenance Service		R 1 083.07	R 1 140.07	R 1 200.08	R 1 263.24	R 1 329.73	

		Per day					
A.4.8.1	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8): Security and Surveillance System Daily Preventative Maintenance Service		R 5.47	R 5.76	R 6.06	R 6.38	R 6.72
A.4.8.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 306.94	R 323.09	R 340.10	R 358.00	R 376.84
A.4.8.3	Security and Surveillance System Monthly Preventative Maintenance Service	per month	R 997.56	R 1 050.06	R 1 105.33	R 1 163.50	R 1 224.74
A.4.8.4	Security and Surveillance System 6-monthly Preventative Maintenance Service	6-montly	R 7 980.52	R 8 400.55	R 8 842.68	R 9 308.09	R 9 797.98
A.4.8.5	Security and Surveillance System Annual Preventative Maintenance Service	per year	R 1 995.13	R 2 100.14	R 2 210.67	R 2 327.02	R 2 449.50

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		Per day						
A.4.9.1	Preventative Maintenance Services for Access Control System (Refer 5.4.1.9): Access Control System Daily Preventative Maintenance Service		R 3.62	R 3.81	R 4.01	R 4.22	R 4.44	
A.4.9.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 203.29	R 213.86	R 225.12	R 236.97	R 249.44	
A.4.9.3	Access Control System Monthly Preventative Maintenance Service	per month	R 660.29	R 695.04	R 731.62	R 770.13	R 810.66	
A.4.9.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 5 282.34	R 5 560.36	R 5 853.01	R 6 161.06	R 6 485.33	
A.4.9.5	Access Control System Annual Preventative Maintenance Service	per year	R 1 320.59	R 1 390.09	R 1 463.26	R 1 540.27	R 1 621.34	

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		Per 2-week cycle						
	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1.10):							
A.4.10.1	Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	per month	R 65.71	R 69.17	R 72.81	R 76.64	R 80.67	
A.4.10.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 284.76	R 299.75	R 315.52	R 332.13	R 349.61	
A.4.10.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 281.40	R 1 348.84	R 1 419.83	R 1 494.56	R 1 573.22	
A.4.10.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 6 834.15	R 7 193.84	R 7 572.47	R 7 971.02	R 8 390.54	

		Per day						
A.5.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 4 Switching Node Facility – Small Node – constructed at N+1 design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 1.00	R 1.05	R 1.11	R 1.17	R 1.23	
A.5.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 56.00	R 58.95	R 62.05	R 65.32	R 68.75	
A.5.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 242.65	R 255.42	R 268.86	R 283.02	R 297.91	
A.5.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 454.96	R 478.91	R 504.11	R 530.64	R 558.57	

		per year							
A.5.1.5	Electrical Installations Annual Preventative Maintenance Service	Per day	R 727.94	R 766.25	R 806.58	R 849.03	R 893.72		
	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2):								
A.5.2.1	Air Conditioning Systems Daily Preventative Maintenance Service	Per 2-week cycle	R 4.07	R 4.28	R 4.51	R 4.75	R 5.00		
A.5.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	per month	R 228.42	R 240.44	R 253.10	R 266.42	R 280.44		
A.5.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per qurter	R 989.81	R 1 041.91	R 1 096.74	R 1 154.47	R 1 215.23		
A.5.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service	per year	R 2 227.08	R 2 344.29	R 2 467.29	R 2 597.56	R 2 734.27		
A.5.2.5	Air Conditioning Systems Annual Preventative Maintenance Service		R 1 484.72	R 1 562.86	R 1 645.12	R 1 731.70	R 1 822.85		

		Per day					
	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3): Fire Detection Systems Daily Preventative Maintenance						
A.5.3.1	Service		R 0.81	R 0.85	R 0.90	R 0.94	R 0.99
		Per 2-week cycle					
	Fire Detection Systems Fortnightly Preventative						
A.5.3.2	Maintenance Service		R 45.46	R 47.85	R 50.37	R 53.02	R 55.81
		per month					
	Fire Detection Systems Monthly Preventative						
A.5.3.3	Maintenance Service		R 147.75	R 155.53	R 163.71	R 172.33	R 181.40
		6-montly					
	Fire Detection Systems 6-monthly Preventative						
A.5.3.4	Maintenance Service		R 1 182.01	R 1 244.22	R 1 309.71	R 1 378.64	R 1 451.20
		per year					
	Fire Detection Systems Annual Preventative Maintenance						
A.5.3.5	Service		R 295.50	R 311.05	R 327.42	R 344.66	R 362.80
		Per day					
	Preventative Maintenance Services for Fire Suppression Systems (Refer 5.4.1.4): Fire Suppression Systems Daily Preventative Maintenance						
A.5.4.1	Service		R 1.87	R 1.97	R 2.07	R 2.18	R 2.30

A.5.4.2	Fire Suppression Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle per month	R 104.97	R 110.49	R 116.31	R 122.43	R 128.88
A.5.4.3	Fire Suppression Systems Monthly Preventative Maintenance Service	6-montly	R 341.15	R 359.11	R 378.01	R 397.90	R 418.84
A.5.4.4	Fire Suppression Systems 6-monthly Preventative Maintenance Service	per year	R 2 729.19	R 2 872.83	R 3 024.03	R 3 183.19	R 3 350.73
A.5.4.5	Fire Suppression Systems Annual Preventative Maintenance Service	Per day	R 682.30	R 718.21	R 756.01	R 795.80	R 837.69
	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5):						
A.5.5.1	UPS and Rectifier DC Systems Daily Preventative Maintenance Service	Per 2-week cycle per month	R 2.31	R 2.24	R 2.36	R 2.48	R 2.62
A.5.5.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service		R 119.57	R 125.86	R 132.49	R 139.46	R 146.80
A.5.5.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service		R 388.60	R 409.05	R 430.58	R 453.24	R 477.10

		6-montly						
A.5.5.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	per year	R 3 108.78	R 3 272.40	R 344.63	R 3 625.93	R 3 816.77	
A.5.5.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	Per day	R 777.19	R 818.09	R 861.15	R 906.48	R 954.19	
	Preventative Maintenance Services for Generators (Refer 5.4.1.6):							
A.5.6.1	Generators Daily Preventative Maintenance Service	Per 2-week cycle	R 2.18	R 2.29	R 2.42	R 2.54	R 2.68	
A.5.6.2	Generators Fortnightly Preventative Maintenance Service	per month	R 122.16	R 128.59	R 135.36	R 142.48	R 149.98	
A.5.6.3	Generators Monthly Preventative Maintenance Service	per qurter	R 397.01	R 417.91	R 439.90	R 463.05	R 487.42	
A.5.6.4	Generators Quarterly Preventative Maintenance Service	per year	R 1 588.02	R 1 671.60	R 1 759.58	R 1 852.19	R 1 949.67	
A.5.6.5	Generators Annual Preventative Maintenance Service		R 794.01	R 835.80	R 879.79	R 926.09	R 974.84	

		Per day					
	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7):						
A.5.7.1	Building Management System Daily Preventative Maintenance Service		R 2.19	R 2.31	R 2.43	R 2.55	R 2.69
		Per 2-week cycle					
A.5.7.2	Building Management System Fortnightly Preventative Maintenance Service		R 123.08	R 129.56	R 136.38	R 143.55	R 151.11
		per qurter					
A.5.7.3	Building Management System Quarterly Preventative Maintenance Service		R 400.01	R 421.06	R 443.22	R 466.55	R 491.11
		6-montly					
A.5.7.4	Building Management System 6-monthly Preventative Maintenance Service		R 3 200.07	R 3 368.49	R 3 545.78	R 3 732.40	R 3 928.85
		per year					
A.5.7.5	Building Management System Annual Preventative Maintenance Service		R 800.02	R 842.13	R 886.45	R 933.10	R 982.21

		Per day					
A.5.8.1	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8): Security and Surveillance System Daily Preventative Maintenance Service		R 3.97	R 4.18	R 4.40	R 4.63	R 4.87
A.5.8.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 222.87	R 234.60	R 246.95	R 259.94	R 273.63
A.5.8.3	Security and Surveillance System Monthly Preventative Maintenance Service	per month	R 724.34	R 762.46	R 802.59	R 844.83	R 889.30
A.5.8.4	Security and Surveillance System 6-monthly Preventative Maintenance Service	6-montly	R 5 794.72	R 6 099.71	R 6 420.74	R 6 758.68	R 7 114.40
A.5.8.5	Security and Surveillance System Annual Preventative Maintenance Service	per year	R 1 448.68	R 1 524.93	R 1 605. 19	R 1 689.67	R 1 778.60

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		Per day							
A.5.9.1	Preventative Maintenance Services for Access Control System (Refer 5.4.1.9): Access Control System Daily Preventative Maintenance Service		R 2.64	R 2.78	R 2.93	R 3.08	R 3.24		
A.5.9.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 148.03	R 155.82	R 164.02	R 172.65	R 181.74		
A.5.9.3	Access Control System Monthly Preventative Maintenance Service	per month	R 481.09	R 506.41	R 533.06	R 561.12	R 590.65		
A.5.9.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 3 848.73	R 4 051.29	R 4 264.52	R 4 488.97	R 4 725.23		
A.5.9.5	Access Control System Annual Preventative Maintenance Service	per year	R 962.18	R 1 012.82	R 1 066.13	R 1 122.24	R 1 181.30		

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		Per 2-week cycle						
A.5.10.1	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1.10): Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	per month	R 65.71	R 69.17	R 72.81	R 76.64	R 80.67	
A.5.10.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 284.76	R 299.75	R 315.52	R 332.13	R 349.61	
A.5.10.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 281.40	R 1 348.84	R 1 419.83	R 1 494.56	R 1 573.22	
A.5.10.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 6 834.15	R 7 193.84	R 7 572.47	R 7 971.02	R 8 390.54	

		Per day					
A.6.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 5A Node room or Box Facility constructed at N design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 0.12	R 0.13	R 0.13	R 0.14	R 0.15
A.6.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 6.65	R 7.00	R 7.37	R 7.76	R 8.16
A.6.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 28.83	R 30.55	R 31.94	R 33.63	R 35.40
A.6.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 54.06	R 56.91	R 59.90	R 63.05	R 66.37
A.6.1.5	Electrical Installations Annual Preventative Maintenance Service	per year	R 86.49	R 91.04	R 95.83	R 100.88	R 106.19

		Per day					
A.6.2.1	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2): Air Conditioning Systems Daily Preventative Maintenance Service		R 0.35	R 0.37	R 0.39	R 0.41	R 0.43
A.6.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 19.40	R 20.42	R 21.50	R 22.63	R 23.82
A.6.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service	per month	R 84.09	R 88.52	R 93.17	R 98.08	R 103.24
A.6.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service	per qurter	R 189.19	R 199.15	R 209.63	R 220.66	R 232.28
A.6.2.5	Air Conditioning Systems Annual Preventative Maintenance Service	per year	R 126.13	R 132.77	R 139.76	R 147.11	R 154.85
		Per day					
A.6.3.1	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3): Fire Detection Systems Daily Preventative Maintenance Service		R 0.16	R 0.17	R 0.18	R 0.19	R 0.20

A.6.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 9.24	R 9.73	R 10.24	R 10.78	R 11.34	
A.6.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	per month	R 30.03	R 31.61	R 33.27	R 35.03	R 36.87	
A.6.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service	6-montly	R 240.25	R 252.89	R 266.20	R 280.22	R 294.96	
A.6.3.5	Fire Detection Systems Annual Preventative Maintenance Service	per year	R 60.06	R 63.22	R 66.55	R 70.05	R 73.74	
		Per day						
	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5):							
A.6.4.1	UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 0.28	R 0.29	R 0.31	R 0.33	R 0.34	
A.6.4.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 15.52	R 16.34	R 17.20	R 18.10	R 19.05	
A.6.4.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service	per month	R 50.45	R 53.11	R 55.90	R 58.84	R 61.94	

		6-montly					
A.6.4.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	per year	R 403.61	R 424.85	R 447.21	R 470.75	R 495.53
A.6.4.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	Per day	R 100.90	R 106.21	R 111.80	R 117.68	R 123.88
	Preventative Maintenance Services for Generators (Refer 5.4.1.6):						
A.6.5.1	Generators Daily Preventative Maintenance Service	Per 2-week cycle	R 0.36	R 0.38	R 0.40	R 0.42	R 0.44
A.6.5.2	Generators Fortnightly Preventative Maintenance Service	per month	R 20.33	R 21.40	R 22.53	R 23.71	R 24.96
A.6.5.3	Generators Monthly Preventative Maintenance Service	per qurter	R 66.07	R 69.55	R 73.21	R 77.06	R 81.12
A.6.5.4	Generators Quarterly Preventative Maintenance Service	per year	R 264.27	R 278.18	R 292.82	R 308.23	R 324.45
A.6.5.5	Generators Annual Preventative Maintenance Service		R 132.14	R 139.09	R 146.42	R 154.12	R 162.23

		Per day							
	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7):								
A.6.6.1	Building Management System Daily Preventative Maintenance Service		R 0.47	R 0.49	R 0.52	R 0.55	R 0.58		
		Per 2-week cycle							
A.6.6.2	Building Management System Fortnightly Preventative Maintenance Service		R 26.61	R 28.01	R 29.48	R 31.04	R 32.67		
		per qurter							
A.6.6.3	Building Management System Quarterly Preventative Maintenance Service		R 86.49	R 91.04	R 95.83	R 100.88	R 106.19		
		6-montly							
A.6.6.4	Building Management System 6-monthly Preventative Maintenance Service		R 691.91	R 728.33	R 766.66	R 807.01	R 849.48		
		per year							
A.6.6.5	Building Management System Annual Preventative Maintenance Service		R 172.98	R 182.08	R 191.67	R 201.76	R 212.37		

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		Per day						
A.6.7.1	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8): Security and Surveillance System Daily Preventative Maintenance Service		R 0.01	R 0.01	R 0.01	R 0.01	R 0.01	
A.6.7.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 0.55	R 0.58	R 0.61	R 0.64	R 0.68	
A.6.7.3	Security and Surveillance System Monthly Preventative Maintenance Service	per month	R 1.80	R 1.89	R 1.99	R 2.10	R 2.21	
A.6.7.4	Security and Surveillance System 6-monthly Preventative Maintenance Service	6-montly	R 14.41	R 15.17	R 15.97	R 16.81	R 17.69	
A.6.7.5	Security and Surveillance System Annual Preventative Maintenance Service	per year	R 3.60	R 3.79	R 3.99	R 4.20	R 4.42	

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		Per day						
A.6.8.1	Preventative Maintenance Services for Access Control System (Refer 5.4.1.9): Access Control System Daily Preventative Maintenance Service		R 0.01	R 0.01	R 0.01	R 0.01	R 0.01	
A.6.8.2	Access Control System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 0.37	R 0.39	R 0.41	R 0.43	R 0.45	
A.6.8.3	Access Control System Monthly Preventative Maintenance Service	per month	R 1.20	R 1.26	R 1.33	R 1.40	R 1.47	
A.6.8.4	Access Control System 6-monthly Preventative Maintenance Service	6-montly	R 9.51	R 10.01	R 10.54	R 11.09	R 11.68	
A.6.8.5	Access Control System Annual Preventative Maintenance Service	per year	R 2.40	R 2.53	R 2.66	R 2.80	R 2.95	

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		Per 2-week cycle						
	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1.10):							
A.6.9.1	Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	per month	R 65.71	R 69.17	R 72.81	R 76.64	R 80.67	
A.6.9.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	per qurter	R 284.76	R 299.75	R 315.52	R 332.13	R 349.61	
A.6.9.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	per year	R 1 281.40	R 1 348.84	R 1 419.83	R 1 494.56	R 1 573.22	
A.6.9.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 6 834.15	R 7 193.84	R 7 572.47	R 7 971.02	R 8 390.54	

		Per day						
A.7.1.1	Preventative Maintenance Services for Telecoms Switching Facilities: Category 5B Node room or Box Facility – Node Room or Box – constructed at N design: Preventative Maintenance Services for Electrical Installations (Refer 5.4.1.1): Electrical Installations Daily Preventative Maintenance Service		R 0.11	R 0.12	R 0.12	R 0.13	R 0.14	
A.7.1.2	Electrical Installations Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 4.58	R 4.82	R 5.07	R 5.34	R 5.62	
A.7.1.3	Electrical Installations Monthly Preventative Maintenance Service	per month	R 19.85	R 20.89	R 21.99	R 23.15	R 24.37	
A.7.1.4	Electrical Installations Quarterly Preventative Maintenance Service	per qurter	R 37.21	R 39.17	R 41.23	R 43.40	R 45.68	

		per year							
A.7.1.5	Electrical Installations Annual Preventative Maintenance Service	Per day	R 59.54	R 62.67	R 65.97	R 69.44	R 73.10		
	Preventative Maintenance Services for Air Conditioning Systems (Refer 5.4.1.2):								
A.7.2.1	Air Conditioning Systems Daily Preventative Maintenance Service		R 0.11	R 0.12	R 0.12	R 0.13	R 0.14		
		Per 2-week cycle							
A.7.2.2	Air Conditioning Systems Fortnightly Preventative Maintenance Service		R 15.27	R 16.07	R 16.92	R 17.81	R 18.75		
		per month							
A.7.2.3	Air Conditioning Systems Monthly Preventative Maintenance Service		R 66.15	R 69.63	R 73.30	R 77.15	R 81.21		
		per qurter							
A.7.2.4	Air Conditioning Systems Quarterly Preventative Maintenance Service		R 148.84	R 156.67	R 164.92	R 173.60	R 182.74		
		per year							
A.7.2.5	Air Conditioning Systems Annual Preventative Maintenance Service		R 99.23	R 104.45	R 109.95	R 115.74	R 121.83		

		Per day					
A.7.3.1	Preventative Maintenance Services for Fire Detection Systems (Refer 5.4.1.3): Fire Detection Systems Daily Preventative Maintenance Service		R 0.12	R 0.13	R 0.13	R 0.14	R 0.15
A.7.3.2	Fire Detection Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 6.78	R 7.14	R 7.51	R 7.91	R 8.32
A.7.3.3	Fire Detection Systems Monthly Preventative Maintenance Service	per month	R 22.05	R 23.21	R 24.43	R 25.72	R 27.07
A.7.3.4	Fire Detection Systems 6-monthly Preventative Maintenance Service	6-montly	R 176.40	R 185.68	R 195.46	R 205.74	R 216.57
A.7.3.5	Fire Detection Systems Annual Preventative Maintenance Service	per year	R 44.10	R 46.42	R 48.86	R 51.44	R 54.14
		Per day					
A.7.4.1	Preventative Maintenance Services for UPS and Rectifier DC Systems (Refer 5.4.1.5): UPS and Rectifier DC Systems Daily Preventative Maintenance Service		R 0.19	R 0.20	R 0.21	R 0.22	R 0.23

A.7.4.2	UPS and Rectifier DC Systems Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 10.68	R 11.24	R 11.83	R 12.46	R 13.11
A.7.4.3	UPS and Rectifier DC Systems Monthly Preventative Maintenance Service	per month	R 34.73	R 36.56	R 38.48	R 40.51	R 42.64
A.7.4.4	UPS and Rectifier DC Systems 6-monthly Preventative Maintenance Service	6-montly	R 277.83	R 292.45	R 307.84	R 324.05	R 341.10
A.7.4.5	UPS and Rectifier DC Systems Annual Preventative Maintenance Service	per year	R 69.46	R 73.12	R 76.96	R 81.01	R 85.28
	Preventative Maintenance Services for Building Management System (Refer 5.4.1.7):	Per day					
A.7.5.1	Building Management System Daily Preventative Maintenance Service		R 0.33	R 0.35	R 0.37	R 0.38	R 0.41
A.7.5.2	Building Management System Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 18.32	R 19.28	R 20.30	R 21.37	R 22.49
A.7.5.3	Building Management System Quarterly Preventative Maintenance Service	per qurter	R 178.61	R 188.01	R 197.91	R 208.32	R 219.29

		6-montly					
A.7.5.4	Building Management System 6-monthly Preventative Maintenance Service	per year	R 476.28	R 501.35	R 527.73	R 555.51	R 584.75
A.7.5.5	Building Management System Annual Preventative Maintenance Service	Per day	R 119.07	R 125.34	R 131.93	R 138.88	R 146.19
	Preventative Maintenance Services for Security and Surveillance System (Refer 5.4.1.8):						
A.7.6.1	Security and Surveillance System Daily Preventative Maintenance Service	Per 2-week cycle	R 0.11	R 0.12	R 0.12	R 0.13	R 0.14
A.7.6.2	Security and Surveillance System Fortnightly Preventative Maintenance Service	per qurter	R 0.11	R 0.12	R 0.12	R 0.13	R 0.14
A.7.6.3	Security and Surveillance System Monthly Preventative Maintenance Service	6-montly	R 0.83	R 0.87	R 0.92	R 0.97	R 1.02
A.7.6.4	Security and Surveillance System 6-monthly Preventative Maintenance Service		R 6.62	R 6.97	R 7.34	R 7.72	R 8.13

A.7.6.5	Security and Surveillance System Annual Preventative Maintenance Service	Per year Per day	R 1.65	R 1.74	R 1.83	R 1.92	R 2.03
	Preventative Maintenance Services on Building Condition and Facility Fabric (Refer 5.4.1.10):						
A.7.7.1	Building Condition and Facility Fabric Fortnightly Preventative Maintenance Service	Per 2-week cycle	R 0.87	R 0.92	R 0.96	R 1.01	R 1.07
A.7.7.2	Building Condition and Facility Fabric Monthly Preventative Maintenance Service	Per month	R 38.44	R 40.46	R 42.59	R 44.83	R 47.19
A.7.7.3	Building Condition and Facility Fabric Quarterly Preventative Maintenance Service	Per qurter	R 172.98	R 182.08	R 191.67	R 201.76	R 212.37
A.7.7.4	Building Condition and Facility Fabric Annual Preventative Maintenance Service		R 922.54	R 971.09	R 1 022.20	R 1 076.01	R 1 132.64

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			Per year							
A.8.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of the Core Category 1A Switching Facilities (32 – 60 cabinets FULL design): Materials and parts used for ad-hoc repairs to Building and Fabric: Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

[redacted]

		%									
A.8.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

			%								
A.8.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%								
A.8.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

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			%								
A.8.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00	

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			%								
A.9.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of the Category 1B Switching Facilities (32 – 60 cabinets proportional design - N+1): Materials and parts used for ad-hoc repairs to Building and Fabric Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.									7.8%	R 0.00

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			%								
A.9.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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			%								
A.9.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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		%								
A.9.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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		%								
A.9.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%								
A.10.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of Category 2 Switching Facilities (15 – 31 cabinets proportional design – N+1): Materials and parts used for ad-hoc repairs to Building and Fabric Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

		%								
A.10.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

		%							
A.10.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

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		%									
A.10.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00	

[redacted]

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		%								
A.10.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%								
A.11.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of Category 3 Switching Facilities (6 – 14 cabinets proportional design – N+1): Materials and parts used for ad-hoc repairs to Building and Fabric Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%							
A.11.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

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		%							
A.11.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

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		%								
A.11.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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			%							
A.11.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

			%								
A.12.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of Category 4 Switching Node Facilities (3 – 5 cabinets proportional design – N+1): Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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			%									
A.12.2		Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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			%								
A.12.3	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%								
A.12.4	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

[redacted]

[redacted]

		%								
A.13.1	Supply of Materials, Parts and Equipment for the Installation, Maintenance, Upgrade and Replacement of Category 5A Node rooms or Node Box Facilities (1 – 4 cabinets proportional design – N): Materials and parts used for ad-hoc repairs to Building and Fabric Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

[redacted]

		%								
A.13.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

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		%							
A.13.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

[redacted]

[redacted]

			%							
A.13.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

[redacted]

[redacted]

			%							
A.13.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

[redacted]

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			%								
A.14.1	Installation, Maintenance, Upgrade and Replacement of Category 5B Node rooms or Node Box Facilities (1 – 4 cabinets proportional design – N): Materials and parts used for ad-hoc repairs to Building and Fabric Examples: Fasteners, Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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		%									
A.14.2	Materials and parts used for ad-hoc repairs to Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.									7.8%	R 0.00

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		%								
A.14.3	Materials and parts used for ad-hoc repairs to BMS, Electrical and UPS Components Example: BMS, Electrical and UPS Components cabling, UPS, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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A.14.4	Materials and parts used for ad-hoc repairs to Structural Supports Example: minor brick repairs, plaster, concrete, reinforcing, paving, Tera force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.	%							7.8%	R 0.00

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		%								
A.14.5	Materials and parts used for ad-hoc repairs to Fire Supports Components Example: Fire Supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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		Each						
	Pricing Evaluation Table: (NOTE – THIS TABLE IS FOR EVALUATION PURPOSES ONLY, AND RATES QUOTED HERE MUST BE THE SAME AS THE RATES QUOTED IN THE PRECEDING TABLES FOR EACH CATEGORY OF FACILITY.): Electrical:							
A.15.1.1	Main switch gear – Large – ABB T6 800A 1SDA060214R1	Each	R 20 501.00	R 21 355.21	R 22 245.01	R 23 171.88	R 24 137.38	7.8%	R 8 690.02
A.15.1.2	Main switch gear – Medium – ABB T5 630A 1SDA054396R1	Each	R 12 795.62	R 13 469.07	R 14 177.97	R 14 924.18	R 15 709.66	7.8%	R 5 543.97
A.15.1.3	Main switch gear – Small - XT1 150A 1SDA067399R1	Each	R 2 061.55	R 2 170.05	R 2 284.27	R 2 404.49	R 2 531.04	7.8%	R 893.21
A.15.1.4	Automatic Transfer switch - Socomech ATYS3 63a	Each	R 15 314.40	R 16 120.42	R 16 968.86	R 17 861.96	R 18 802.07	7.8%	R 6 635.28
A.15.1.5	Power meter monitored - Schneider PM 2200 Power Meter METSEPPM2220		R 6 862.00	R 7 223.16	R 7 603.32	R 8 003.50	R 8 424.74	7.8%	R 2 973.10

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		Each						
A.15.2.1	Air-conditioning: Crack – Liebert Vertiv L99UA000VBG0020PX05126611	Each	R 537 968.07	R 566 282.18	R 596 086.50	R 627 459.48	R 660 483.66	7.8%	R 233 085.83
A.15.2.2	Crack – Liebert Vertiv PX062DAI3XS6311D0P0CAEE	Each	R 472 276.95	R 497 133.63	R 523 298.56	R 550 840.59	R 579 832.20	7.8%	R 204 623.79
A.15.2.3	Crack – Liebert Vertiv PX025DAL3US36311D0P0CAEEE	Each	R 249 380.62	R 262 505.92	R 276 322.02	R 290 865.28	R 306 173.98	7.8%	R 108 049.33
A.15.2.4	Crack – Liebert Vertiv WM15MD00012C11200	Each	R 148 912.47	R 156 749.97	R 164 999.97	R 173 684.18	R 182 825.45	7.8%	R 64 519.42
A.15.2.5	Daikin 18000BTU Inverter type FTXM50M/RXM50M9	Each	R 13 813.60	R 14 540.63	R 15 305.93	R 16 111.50	R 16 959.48	7.8%	R 5 985.03
A.15.3.1	Fire Detection: Fire Panel Edwards iO64 AFCP, 1 loop, Red, 230 VAC - SAPEDW/IO64	Each	R 16 654.00	R 17 530.53	R 18 453.19	R 19 424.41	R 20 446.74	7.8%	R 7 215.69
A.15.3.2	Smoke detector Edwards S Photoelectric Smoke Detector, EN54 - SADEDW/S-PDI		R 822.00	R 865.26	R 910.80	R 958.74	R 1 009.20	7.8%	R 356.15

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A.15.3.3	Heat detector Edwards Fixed Temp / RoR Heat Detector - 57°C, 9°C / min, EN54 - SADEDW/S-PRDI	Each	R 686.00	R 722.11	R 760.11	R 800.12	R 842.23	7.8%	R 297.22
A.15.4.1	Fire Suppression: 142 Novec gas bottle fully charged 142 ℓ cylinder & 2" valve assembly TPED - SGNOV/C142L	Each	R 179 610.00	R 189 063.16	R 199 013.85	R 209 488.26	R 220 513.96	7.8%	R 77 819.76
A.15.4.2	Actuator kit with controller – Electric Control Head, stackable, Explosion proof - SGNOV/VACT1	Each	R 4 743.00	R 4 992.63	R 5 255.40	R 5 532.00	R 5 823.16	7.8%	R 2 055.00
A.15.4.3	Control head monitor SGNOV/CHM1	Each	R 3 632.00	R 3 823.16	R 4 024.38	R 4 236.19	R 4 459.14	7.8%	R 1 573.64
A.15.4.4	Lever operated head SGNOV/VACTLO	Each	R 2 076.00	R 2 185.26	R 2 300.28	R 2 421.34	R 2 548.78	7.8%	R 899.47
A.15.4.5	Pneumatic operated head SGNOV/VACTPO	Each	R 1 426.00	R 1 501.05	R 1 580.06	R 1 663.22	R 1 750.75	7.8%	R 617.84
A.15.4.6	Securiton 535 – ASD – ASD 535-2: Two pipe, Standard Display SSA-535-2	Each	R 28 977.00	R 30 502.11	R 32 107.48	R 33 797.35	R 35 576.15	7.8%	R 12 554.89
A.15.5.1	UPS: RI 22 ABB unit with 2 x 20kw modules Upscale RI22		R 238 651.37	R 265 168.18	R 294 631.32	R 327 368.13	R 363 742.36	7.8%	R 116 185.79

	RI 22 battery set	Each						R 17
A.15.5.2	12v 9amp AH x 80	Each	R 31 428.57	R 34 920.63	R 38 800.71	R 48 500.88	R 66 450.68	7.8% 167.91
	ST 200 ABB unit with 2 x 20kw modules							
A.15.5.3	Upscale ST200 @20KW modules		R 387 540.38	R 430 600.42	R 478 444.91	R 598 056.14	R 664 506.82	R 199 7.8% 613.60
	ST 200 battery set	Each						R 88
A.15.5.4	109AH @ x 48	Each	R 182 160.00	R 202 400.00	R 224 888.89	R 249 876.54	R 277 640.60	7.8% 683.35
	DPA 500 ABB unit with 2 x			R 1 340		R 1 654		R 587
A.15.5.5	100kw modules		R 1 206 301.02	334.47	R 1 489 260.52	733.91	R 1 838 593.24	7.8% 279.41
	DPA 500 battery set	Each						R 139
A.15.5.6	200AH x 48	Each	R 270 963.00	R 301 070.00	R 334 522.22	R 418 152.78	R 464 614.20	7.8% 567.13
	Generators: 100 kVA John Deer with alternator with Hot Dipped Galvanized base frame, 10001 removable base fuel tank and Deep Sea controller DSE 7420							
A.15.6.1	John Deere CD4045HF158 / Leroy Somer LSAP 44.3C		R 316 319.26	R 332 778.17	R 350 292.81	R 368 729.27	R 388 136.08	R 136 7.8% 987.94

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		Each						
A.15.6.2	200 kVA John Deer with alternator with Hot Dipped Galvanized base frame, 1000 l removable base fuel tank and Deep Sea controller DSE 7420 John Deere CD6068HFU74 / Leroy Somer LSAP 46.2M5	Each	R 425 339.26	R 447 725.54	R 471 290.04	R 496 094.78	R 522 205.03	7.8%	R 184 287.06
A.15.6.3	400 kVA Volvo with alternator with Hot Dipped Galvanized base frame, 1000 l removable base fuel tank and Deep Sea controller DSE 7420 Volvo TAD1344GE / Leroy Somer LSAP 43P	Each	R 607 364.26	R 639 330.80	R 672 979.79	R 708 399.78	R 745 683.98	7.8%	R 263 153.17
A.15.6.4	600 kVA Volvo with alternator with Hot Dipped Galvanized base frame, 1000 l removable base fuel tank and Deep Sea controller DSE 7420 Volvo TWD1643GE / Leroy Somer LSA 47.2L9		R 844 964.26	R 889 436.06	R 936 248.49	R 985 524.72	R 1 037 394.45	7.8%	R 366 098.30

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		Each						
A.15.7.1	Security and Access: Static Bosch camera NDN 4502-AL 1080P H.265 IR HD Camera Dome		R 9 456.42	R 9 954.13	R 10 478.03	R 11 029.50	R 11 610.00	7.8%	R 4 097.19
A.15.7.2	PZT Bosch camera NDP-5512-Z30L STARLIGHT DOME	Each	R 26 897.44	R 28 313.09	R 29 803.26	R 31 371.85	R 33 023.00	7.8%	R 11 653.87
A.15.7.3	NIE NIE2960	Each	R 63 750.00	R 67 105.26	R 70 637.12	R 74 354.86	R 78 268.28	7.8%	R 27 621.01
A.15.7.4	Biometric access control unit MORPHO ACCESS SIGMA LIGHT	Each	R 5 497.00	R 5 786.32	R 6 090.86	R 6 411.43	R 6 748.87	7.8%	R 2 381.69
	OEM License Fees, Support, Skills transfer, Training and Maintenance.: OEM License Fees, Support, Upgrades, Skill transfer, Training and Maintenance:	Per Hour (All Inclusive)							
A.16.1.1	Software upgrade and development		R 421.05	R 440.89	R 461.67	R 483.42	R 506.20		
A.16.1.2	Switch configuration and operating training	Per Hour (All Inclusive)	R 210.53	R 220.45	R 230.83	R 241.71	R 253.10		
A.16.1.3	Licence upgrades	Per Hour (All Inclusive)	R 421.05	R 440.89	R 461.67	R 483.42	R 506.20		
A.16.1.4	Control and BMS technical support	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
A.16.1.5	Maintenance training and skill transfer	Per Hour (All Inclusive)	R 210.53	R 220.45	R 230.83	R 241.71	R 253.10		

A.16.1.6	Generator and Deep Sea controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.7	UPS controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.8	HVAC controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.9	Duty rotation controls	Per Hour (All Inclusive)	R 150.00	R 175.20	R 175.20	R 175.20	R 175.20	
A.16.1.10	Johnson controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.11	Vesda controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.12	Fire controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.13	Fire Server controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.14	BMS controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
A.16.1.15	Ventilation controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00	
A.16.1.16	P2000 AND/OR C.CORE 9000 access controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00	
A.16.1.17	P2000 AND/OR C.CORE 9000 access Server controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00	

A.16.1.18	Power meters and monitoring controls	Per Hour (All Inclusive)	R 500.00	R 523.56	R 548.23	R 574.06	R 601.11
A.16.1.19	CCTV controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49
A.16.1.20	CCTV Server controls	Per Hour (All Inclusive)	R 200.00	R 200.00	R 200.00	R 200.00	R 200.00
	Labour services, Call out support, Skill transfer and Training.:	Per Hour (All Inclusive)					
A.16.2.1	Project manager		R 850.00	R 890.05	R 931.99	R 975.91	R 1 021.89
A.16.2.2	Jnr Project manager	Per Hour (All Inclusive)	R 472.63	R 494.90	R 518.22	R 542.64	R 568.21
A.16.2.3	Environmental consultant	Per Hour (All Inclusive)	R 250.00	R 261.78	R 274.12	R 287.03	R 300.56
A.16.2.4	Architectural consultancy	Per Hour (All Inclusive)	R 350.00	R 366.49	R 383.76	R 401.84	R 420.78
A.16.2.5	Consulting structural engineer	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01
A.16.2.6	Consulting mechanical engineer	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01
A.16.2.7	Consulting electrical engineer	Per Hour (All Inclusive)	R 650.00	R 680.63	R 712.70	R 746.28	R 781.45
A.16.2.8	Consulting ventilation and cooling specialist	Per Hour (All Inclusive)	R 650.00	R 680.63	R 712.70	R 746.28	R 781.45
A.16.2.9	Consulting Fire systems specialist	Per Hour (All Inclusive)	R 644.21	R 674.57	R 706.35	R 739.64	R 774.49

A.16.2.10	Loading factor for tower mast design	Per Hour (All Inclusive)	R 644.21	R 674.57	R 706.35	R 739.64	R 774.49	
A.16.2.11	Loading factor for towers and masts	Per Hour (All Inclusive)	R 644.21	R 674.57	R 706.35	R 739.64	R 774.49	
A.16.2.12	Snr Design and equipment specifications of switching facilities	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01	
A.16.2.13	Snr Design and equipment specifications of switching facilities	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01	
A.16.2.14	Draughts man to update and capture changes for certification per design.	Per Hour (All Inclusive)	R 385.00	R 403.14	R 422.14	R 442.03	R 462.86	
A.16.2.15	Uptime maintenance and OSS professional	Per Hour (All Inclusive)	R 500.00	R 523.56	R 548.23	R 574.06	R 601.11	
A.16.2.16	Uptime maintenance and OSS professional Jnr	Per Hour (All Inclusive)	R 400.00	R 418.85	R 438.58	R 459.25	R 480.89	
A.16.2.17	Certified Electrician for COC certification	Per Hour (All Inclusive)	R 721.05	R 755.03	R 790.61	R 827.86	R 866.87	
A.16.2.18	Snr Engineer	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01	
A.16.2.19	Jnr Engineer	Per Hour (All Inclusive)	R 650.00	R 680.63	R 712.70	R 746.28	R 781.45	
A.16.2.20	Snr Technician	Per Hour (All Inclusive)	R 465.00	R 486.91	R 509.85	R 533.88	R 559.04	

A.16.2.21	Jnr Technician	Per Hour (All Inclusive)	R 310.53	R 325.16	R 340.48	R 356.52	R 373.32		
A.16.2.22	Snr Coordinator	Per Hour (All Inclusive)	R 662.11	R 693.30	R 725.97	R 760.18	R 796.00		
A.16.2.23	Jnr Coordinator	Per Hour (All Inclusive)	R 415.79	R 435.38	R 455.90	R 477.38	R 499.87		
A.16.2.24	Snr Team leader	Per Hour (All Inclusive)	R 368.42	R 385.78	R 403.96	R 422.99	R 442.93		
A.16.2.25	Jnr Team leader	Per Hour (All Inclusive)	R 305.26	R 319.65	R 334.71	R 350.48	R 367.00		
A.16.2.26	Snr Administrator	Per Hour (All Inclusive)	R 350.00	R 366.49	R 383.76	R 401.84	R 420.78		
A.16.2.27	Jnr Administrator	Per Hour (All Inclusive)	R 305.26	R 319.65	R 334.71	R 350.48	R 367.00		
A.16.2.28	Site security	Per Hour (All Inclusive)	R 1 263.16	R 1 322.68	R 1 385.00	R 1 450.27	R 1 518.60		
A.16.2.29	Snr Site security	Per Hour (All Inclusive)	R 1 300.00	R 1 361.26	R 1 425.40	R 1 492.56	R 1 562.90		
A.16.2.30	Site security with transport	Per Hour (All Inclusive)	R 1 400.00	R 1 465.97	R 1 535.05	R 1 607.38	R 1 683.12		
A.16.2.31	Snr Site security with transport	Per Hour (All Inclusive)	R 1 420.00	R 1 486.91	R 1 556.97	R 1 630.34	R 1 707.16		
A.16.2.32	Call out per activity Weekdays (Monday to Friday – office hours)	Per Hour (All Inclusive)	R 684.21	R 716.45	R 750.21	R 785.56	R 822.58		

A.16.2.33	Call out per activity Weekdays (Monday to Saturday – after hours)	Per Hour (All Inclusive)	R 894.74	R 936.90	R 981.04	R 1 027.27	R 1 075.68		
A.16.2.34	Call out per activity Sundays and Public holidays (All hours)	Per Hour (All Inclusive)	R 1 052.63	R 1 102.23	R 1 154.17	R 1 208.55	R 1 265.50		
A.16.2.35	Rigging call out all hours for tower mast and hardware	Per Hour (All Inclusive)	R 1 374.74	R 1 439.52	R 1 507.35	R 1 578.37	R 1 652.75		
A.16.2.36	Rigging call out all hours for generators and cable connection	Per Hour (All Inclusive)	R 1 374.70	R 1 439.52	R 1 507.35	R 1 578.37	R 1 652.75		
A.16.2.37	Refuelling during emergencies	Per Hour (All Inclusive)	R 1 578.95	R 1 653.35	R 1 731.25	R 1 812.83	R 1 898.25		
A.16.2.38	Refuelling during normal conditions	Per Hour (All Inclusive)	R 800.00	R 837.70	R 877.17	R 918.50	R 961.78		

		%							
8.1.1	Supply of Materials and Equipment to Provide Preventive & Routine Maintenance, Upgrades and Replacement Services for Towers, Masts, Mounting Structures and Equipment Enclosures.: Materials and parts used for ad-hoc repairs, upgrades and replacement to Towers and Masts Example: Tower and mast Braces, Supports, Ladders, Structural members, Platforms, hatches, mounting hardware, mounting members, Filters, fabric, lubricants, fasteners, cabling, fencing components and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.							7.8%	R 0.00

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		%									
B.1.2	Materials and parts used for ad-hoc repairs, upgrades and replacement for Mechanical components Example: locks, security, ventilation, cooling, fans pumps, piping, generator, flooring, doors, windows, sealants and roofing. Cleaning consumables, corrosion protection and corrosive treatment painting.									7.8%	R 0.00

			%								
B.1.3	Materials and parts used for ad-hoc repairs, upgrades and replacement for BMS components Example: BMS components, cabling, Electrical components, UPS, UPS components, Batteries, generator, chargers, rectifiers, rectifier charging modules, fuses, electrical cables, switches, switch gear, bypass switches, ATS, STS, plugs, interconnecting cables, globes, flood lights, navigation lights. Camera housing, cameras, infrared illuminators. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.								7.8%	R 0.00

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B.1.4	Materials and parts used for ad-hoc repairs, upgrades and replacement for Structural Supports Example: Structural supports, minor brick repairs, plaster, concrete, reinforcing, paving, Tera-force, ground stabilization systems, filling material, stone chip, G4,5, torch on sealants, frames, doors, gates, cages, rails razor coils and flat wrap and roofing. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.	%							7.8%	R 0.00

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		%							
B.1.5	Materials and parts used for ad-hoc repairs, upgrades and replacement for Fire Supports Example: Fire supports, Piping, nozzles, filters, gas bottles, replacement water, control panels, sensors, detectors, fire proof cabling, recharging of suppressant, powder replacement. Cleaning consumables, pest control, corrosion protection and corrosive treatment painting.	per month						7.8%	R 0.00
B.2.1	Provide Preventive & Routine Maintenance, Upgrades and Replacement Services of Towers, Masts, Mounting Structures and Equipment Enclosures.: Tower Maintenance		R 1 500.00	R 1 570.68	R 1 644.69	R 1 722.19	R 1 803.34		

B.2.2	Full Field and Electrical Maintenance	per month	R 1 500.00	R 1 570.68	R 1 644.69	R 1 722.19	R 1 803.34
B.2.3	Minor Field Maintenance	per month	R 1 200.00	R 1 256.54	R 1 315.75	R 1 377.75	R 1 442.67
B.2.4	Generator Housing and Site Maintenance	per month	R 1 200.00	R 1 256.54	R 1 315.75	R 1 377.75	R 1 442.67
B.2.5	Tower Audit	per month	R 1 200.00	R 1 256.54	R 1 315.75	R 1 377.75	R 1 442.67
B.2.6	Electrical Maintenance	per month	R 1 200.00	R 1 256.54	R 1 315.75	R 1 377.75	R 1 442.67
B.3.1	OEM License Fees, Support, Upgrades, Skill transfer, Training and Maintenance: OEM License Fees, Support, Upgrades, Skill transfer, Training and Maintenance: Software upgrade and development	Per Hour (All Inclusive)	R 421.05	R 440.89	R 461.67	R 483.42	R 506.20
B.3.2	Switch configuration and operating training	Per Hour (All Inclusive)	R 210.53	R 220.45	R 230.83	R 241.71	R 253.10
B.3.3	Licence upgrades	Per Hour (All Inclusive)	R 421.05	R 440.89	R 461.67	R 483.42	R 506.20
B.3.4	Control and BMS technical support	Per Hour (All Inclusive)	R 463.16	R 799.12	R 836.77	R 876.20	R 917.49
B.3.5	Maintenance training and skill transfer	Per Hour (All Inclusive)	R 210.53	R 220.45	R 230.83	R 241.71	R 253.10

B.3.6	Generator and Deep Sea controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.7	UPS controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.8	HVAC controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.9	Duty rotation controls	Per Hour (All Inclusive)	R 150.00	R 175.20	R 175.20	R 175.20	R 175.20		
B.3.10	Johnson controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.11	Vesda controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.12	Fire controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.13	Fire Server controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.14	BMS controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49		
B.3.15	Ventilation controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00		
B.3.16	P2000 AND/OR C.CORE 9000 access controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00		
B.3.17	P2000 AND/OR C.CORE 9000 access Server controls	Per Hour (All Inclusive)	R 450.00	R 471.20	R 493.41	R 516.66	R 541.00		

B.3.18	Power meters and monitoring controls	Per Hour (All Inclusive)	R 500.00	R 523.56	R 548.23	R 574.06	R 601.11	
B.3.19	CCTV controls	Per Hour (All Inclusive)	R 763.16	R 799.12	R 836.77	R 876.20	R 917.49	
B.3.20	CCTV Server controls	Per Hour (All Inclusive)	R 200.00	R 200.00	R 200.00	R 200.00	R 200.00	
	Labour service, Call out support, Skill transfer and Training.:	Per Hour (All Inclusive)						
B.3.21	Project manager		R 850.00	R 890.05	R 931.99	R 975.91	R 1 021.89	
B.3.22	Jnr Project manager	Per Hour (All Inclusive)	R 472.63	R 494.90	R 518.22	R 542.64	R 568.21	
B.3.23	Environmental consultant	Per Hour (All Inclusive)	R 250.00	R 261.78	R 274.12	R 287.03	R 300.56	
B.3.24	Architectural consultancy	Per Hour (All Inclusive)	R 350.00	R 366.49	R 383.76	R 401.84	R 420.78	
B.3.25	Consulting structural engineer	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01	
B.3.26	Consulting mechanical engineer	Per Hour (All Inclusive)	R 135.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01	
B.3.27	Consulting electrical engineer	Per Hour (All Inclusive)	R 1 368.42	R 1 432.90	R 1 500.42	R 1 571.12	R 1 645.15	
B.3.28	Consulting ventilation and cooling specialist	Per Hour (All Inclusive)	R 650.00	R 680.63	R 712.70	R 746.28	R 781.45	
B.3.29	Consulting Fire systems specialist	Per Hour (All Inclusive)	R 644.21	R 674.57	R 706.35	R 739.63	R 774.49	

B.3.30	Structural certification of towers and masts	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01		
B.3.31	Certified Electrician for COC certification	Per Hour (All Inclusive)	R 721.05	R 755.03	R 790.61	R 827.86	R 866.87		
B.3.32	Snr Engineer	Per Hour (All Inclusive)	R 1 350.00	R 1 413.61	R 1 480.22	R 1 549.97	R 1 623.01		
B.3.33	Jnr Engineer	Per Hour (All Inclusive)	R 650.00	R 680.63	R 712.70	R 746.28	R 781.45		
B.3.34	Snr Technician	Per Hour (All Inclusive)	R 465.00	R 486.91	R 509.85	R 533.88	R 559.04		
B.3.35	Jnr Technician	Per Hour (All Inclusive)	R 310.53	R 325.16	R 340.48	R 356.52	R 373.32		
B.3.36	Snr Coordinator	Per Hour (All Inclusive)	R 662.11	R 693.30	R 725.97	R 760.18	R 796.00		
B.3.37	Jnr Coordinator	Per Hour (All Inclusive)	R 415.79	R 435.38	R 455.90	R 477.38	R 499.87		
B.3.38	Snr Team leader	Per Hour (All Inclusive)	R 368.42	R 385.78	R 403.96	R 422.99	R 442.93		
B.3.39	Jnr Team leader	Per Hour (All Inclusive)	R 305.26	R 319.65	R 334.71	R 350.48	R 367.00		
B.3.40	Snr Administrator	Per Hour (All Inclusive)	R 350.00	R 366.49	R 383.76	R 401.84	R 420.78		
B.3.41	Jnr Administrator	Per Hour (All Inclusive)	R 305.26	R 319.65	R 334.71	R 350.48	R 367.00		

B.3.42	Site security (unarmed)	Per Hour (All Inclusive)	R 1 263.16	R 1 322.68	R 1 385.00	R 1 450.27	R 1 518.60		
B.3.43	Snr Site security (armed)	Per Hour (All Inclusive)	R 1 264.21	R 1 323.78	R 1 386.16	R 1 451.47	R 1 519.87		
B.3.44	Site security with transport (unarmed)	Per Hour (All Inclusive)	R 1 420.00	R 1 486.91	R 1 556.97	R 1 630.34	R 1 707.16		
B.3.45	Snr Site security with transport (armed)	Per Hour (All Inclusive)	R 1 500.00	R 1 570.68	R 1 644.69	R 1 722.19	R 1 803.34		
B.3.46	Call out per activity Weekdays (Monday to Friday – office hours)	Per Hour (All Inclusive)	R 684.21	R 716.45	R 750.21	R 785.56	R 822.58		
B.3.47	Call out per activity Weekdays (Monday to Saturday – after hours)	Per Hour (All Inclusive)	R 894.74	R 936.90	R 981.04	R 1 027.26	R 1 075.68		
B.3.48	Call out per activity Sundays and Public holidays (All hours)	Per Hour (All Inclusive)	R 1 052.63	R 1 102.23	R 1 154.17	R 1 208.55	R 1 265.50		
B.3.49	Rigging call out all hours for tower mast and hardware	Per Hour (All Inclusive)	R 1 374.74	R 1 439.52	R 1 507.35	R 1 578.37	R 1 652.75		
B.3.50	Rigging call out all hours for generators and cable connection	Per Hour (All Inclusive)	R 1 374.74	R 1 439.52	R 1 507.35	R 1 578.37	R 1 652.75		
B.3.51	Refuelling during emergencies	Per Hour (All Inclusive)	R 1 578.95	R 1 653.35	R 1 731.25	R 1 812.83	R 1 898.25		
B.3.52	Refuelling during normal conditions	Per Hour (All Inclusive)	R 800.00	R 837.70	R 877.17	R 918.50	R 961.78		

		Each						
	Description of material used on 40 (forty) installations: Electrical:							
B.4.1.1	Main switch gear – Small - XT1 150A 1SDA067399R1	Each	R 2 061.55				7.8%	R 160.80
B.4.1.2	Automatic Transfer switch - Socomech ATYS3 63a	Each	R 15 314.40				7.8%	R 1 194.52
B.4.1.4	Daikin 18000BTU Inverter type FTXM50M/RXM50M9	Each	R 13 813.60				7.8%	R 1 077.46
	Fire Detection: Fire Panel							
B.4.2.1	Edwards iO64 AFCP, 1 loop, Red, 230 VAC -SAPEDW/IO64	Each	R 16 654.00				7.8%	R 1 299.01
B.4.2.2	Smoke detector Edwards S Photoelectric Smoke Detector, EN54 - SADEDW/S-PDI	Each	R 822.00				7.8%	R 64.12
B.4.2.3	Heat detector Edwards Fixed Temp / RoR Heat Detector - 57°C, 9°C / min, EN54 - SADEDW/S-PRDI	Each	R 686.00				7.8%	R 53.51
	UPS:							
B.4.3.1	RI 22 ABB unit with 2 x 20kw modules Upscale RI22	Each	R 210 176.00				7.8%	R 16 393.73
B.4.3.2	RI 22 battery set 12v 9amp AH x 80		R 30 052.80				7.8%	R 2 344.12

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		Each						
B.4.4.1	Generators: 100 kVA John Deer with alternator with Hot Dipped Galvanized base frame, 1000 l removable base fuel tank and Deep Sea controller DSE 7420 John Deere CD4045HF158 / Leroy Somer LSAP 44.3C	Each	R 316 139.26				7.8%	R 24 658.86
B.4.4.2	200 kVA John Deer with alternator with Hot Dipped Galvanized base frame, 1000 l removable base fuel tank and Deep Sea controller DSE 7420 John Deere CD6068HFU74 / Leroy Somer LSAP 46.2M5	Each	R 425 339.26				7.8%	R 33 176.46
B.4.5.1	Security and Access: Static Bosch camera NDN 4502-AL 1080P H.265 IR HD Camera Dome	Each	R 9 456.42				7.8%	R 737.60
B.4.5.2	PZT Bosch camera NDP-5512-Z30L STARLIGHT DOME	Each	R 26 897.44				7.8%	R 2 098.00
B.4.5.3	NIE NIE2960	Each	R 63 750.00				7.8%	R 4 972.50

B.4.5.4	Biometric access control unit MORPHO ACCESS SIGMA LIGHT	Each	R 5 497.00					7.8%	R 428.77
B.4.6	Total estimated 5-year costs / price to maintain a single unit (1)	Each	R 25 000.00	R 26 500.00	R 28 080.00	R 29 775.00	R 31 561.00		

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TENDER NO: 342S/2021/22

(11) OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

AGREEMENT MADE AND ENTERED INTO BETWEEN THE CITY OF CAPE TOWN (HEREINAFTER CALLED THE "CCT") AND

Xon Systems (Pty) Ltd
(Supplier/Mandatary/Company/CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993 AS AMENDED.

I, Wynand Uzamore
representing
Xon systems (Pty) ltd , as an employer

in its own right, do hereby undertake to ensure, as far as is reasonably practicable that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated thereunder

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer

COID [redacted] Registration Number

OR Compensation Insurer N/A Policy No

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set

I hereby declare that I have read and understand the Occupational Health and Safety Specifications contained in this tender and undertake to comply therewith at all times

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan submitted and approved in terms thereof

Signed at Parkwood on the 20th day of June 20[redacted]

[redacted]

Mandatary

Signed at Cape Town on the 21 day of June 20

[redacted]

Witness

[redacted]

for and on behalf of
City of Cape Town

[redacted]

[redacted]

PART 7- INFORMATION PROVIDED BY TENDERER

All of the aforementioned information, as submitted/provided by the Supplier for **TENDER NO: 342S/2021/22 - MAINTENANCE OF TELECOMMUNICATIONS FACILITIES FOR THE CITY OF CAPE TOWN**, are incorporated into this Memorandum of agreement by the mere reference thereof.

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