

## **CONTRACT DATA**

**A contract between  
SENTECH, Sender Technology Park, Radiokop, Octave Road, Honeydew,  
and**

---

---

**For  
Appointments of Service Provider for a Turnkey Solution for The Design, Supply,  
Integration and Installation of Antenna Controller systems for 2 x C-Band and 3 x Ku-  
Band Antennas to SENTECH SOC LTD.**

**Bid Number: SENT/025/2021-22**

## **Contents**

Part C1: Agreements and contract data  
    Form of Offer and Acceptance  
    Contract Data provided by the SENTECH  
    Contract Data provided by the Supplier

Part C2: Pricing Data

Part C3: Scope of Work

Conditions of Contract (available separately)

## PART C1: AGREEMENTS AND CONTRACT DATA –

### Form of offer and Acceptance

SENTECH, identified in the acceptance signature block, has solicited offers to enter into a contract for the appointments of service provider for a turnkey solution for the design, supply, integration and installation of antenna controller systems for 2 x c-band and 3 x ku-band antennas to SENTECH SOC LTD.

The Bidder, identified in the offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Bid schedules, and by submitting this offer has accepted the conditions of the Bid.

By the representative of the Bidder, deemed to be duly authorized, signing this part of this form of offer and acceptance, the Bidder offers to perform all of the obligations and liabilities of the Bidder under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

### THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF APPLICABLE TAXES; (in the Bids applicable currency).

\_\_\_\_\_ (amount in words);

\_\_\_\_\_ (amount in figures)

***NB: The Prices quoted above is the total Bid offer inclusive of all applicable taxes for the Contract duration. The price must be carried over from the price breakdown / schedule of rates provided in the Bid document.***

This offer may be accepted by SENTECH by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Tender Data, whereupon the Bidder becomes the party named as the Bidder in the conditions of contract identified in the Contract Data.

**Bidder's Signature(s)** \_\_\_\_\_

**Signed by the Bidder at** \_\_\_\_\_ **on this the** \_\_\_\_\_ **day of** \_\_\_\_\_ **20** \_\_\_\_\_

**Name(s)** \_\_\_\_\_

**Capacity** \_\_\_\_\_

**Address (Domicillium)**

\_\_\_\_\_  
\_\_\_\_\_

## Acceptance

By signing this part of this form of offer and acceptance, SENTECH accepts the Bidder's offer. In consideration thereof, SENTECH shall pay the Bidder the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the Bidder's offer by the signature by SENTECH shall form an agreement between SENTECH and the Bidder 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:

Part C1 Agreements and contract data, (which includes this agreement)

Part C2 Pricing data

Part C3 Scope of work.

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 above.

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

Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

**SENTECH's Signature(s)** \_\_\_\_\_

**Signed by SENTECH at** \_\_\_\_\_ **on this the** \_\_\_\_\_ **day of** \_\_\_\_\_ **20** \_\_\_\_\_

**Name(s)** \_\_\_\_\_

**Designation** \_\_\_\_\_

**SENTECH SOC LIMITED,**  
Sender Technology Park  
Octave Road  
Radiokop  
Honeydew  
Johannesburg

**Date** \_\_\_\_\_

**Upon acceptance by SENTECH of the Bidder's offer, a contract will come into existence.**

## SCHEDULE OF DEVIATIONS

**Notes:**

- 1 The extent of deviations from the Bid documents issued by the SENTECH before the Bid closing date is limited to those permitted in terms of the conditions of Bid.
- 2 A Bidder'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 arises from the process of offer and acceptance either as a confirmation, clarification or change to the Bid 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 Bid documents arising from the above agreements and recorded here shall also be incorporated into the Contract.

1. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

2. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

3. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

4. **Subject** \_\_\_\_\_

**Details** \_\_\_\_\_

By the duly authorised representatives signing this schedule of deviations, SENTECH and the Bidder agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Bid schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Bidder and SENTECH 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 Bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

## **Contract Data**

### **Part one - Data provided by SENTECH given in all contracts**

**1. The Purchaser is**  
**SENTECH SOC LIMITED,**  
Sender Technology Park  
Octave Road  
Radiokop  
Honeydew  
Johannesburg

#### **2. General**

The National Treasury General Conditions of Contract for goods and services (NT GCC, 2010) or General Conditions of Contract for Works (2015) as issued by National Treasury and the Construction Industry Development Board of the Republic of South Africa apply, respectively.

The goods are specified in the Scope of Work. The Special Conditions of Contract (SCC) are stipulated in the Tender Data.

#### **3. Goods information:**

The *Goods Information* is in the document called "Scope of Work" and in the documents and drawings referred to by it.

#### **4. Terms of Delivery**

The *Terms of Delivery* are contained in the General Conditions of Contract (GCC) and Special Conditions of Contract.

#### **5. Language**

The *language* of this contract is English.

#### **6. Governing Laws and Jurisdiction**

The Contract shall be governed by and interpreted according to the laws of the Republic of South Africa.

In the event of a conflict between or inconsistency in the laws applicable in the various provinces of the Republic of South Africa, the law as applied and interpreted in the Gauteng Province shall prevail.

The parties irrevocably submit to the exclusive jurisdiction of the South Gauteng High Court, Johannesburg in respect of any action or proceeding arising from this Bid.

This Bid and all contracts emanating there from will be subject to the General Conditions of Contract issued in accordance with Treasury Regulation 16A published in terms of the Public Finance Management Act, 1999 (Act 1 of 1999). The Special Conditions of Contract are supplementary to that of the General Conditions of Contract. Where, however, the SCC are in conflict with the GCC, the SCC shall prevail.

#### **7. Sub-contracting post award**

A Bidder awarded a Bid may only enter into a subcontracting arrangement with the approval of SENTECH. The successful bidder may not subcontract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level of contributor than the Bidder concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.

#### **8. Transformation Plan**

A transformation plan is a record of activities an entity intends to undertake to improve its BBBEE Level through Ownership, Management and Control; Skills Development; Enterprise and Supplier Development and Socio-Economic Development.

SENTECH reserves the right to request a BBBEE transformation plan with clearly defined timelines and milestones if the recommended bidder does not meet SENTECH's transformation goals. These milestones must be achieved over the term of the contract. This transformation plan shall be submitted within 10 working days from the written request, failing which SENTECH reserves the right to withdraw its appointment of the preferred recommended Bidder.

### **9. Warranty**

The warranty period is 12 months after Delivery.

### **10. Payment**

The method and conditions of payment are contained in the Tender Data, GCC and SCC.  
The interest on late payment is 0 % per complete week of delay.

### **11. Currency**

South African registered businesses that purchase equipment overseas and quote in foreign currency will be required to provide SENTECH a 6-month forward cover contract on appointment. The 6 months forward cover will be re-negotiated and renewed every 6 months should the contract term on this tender be longer than 6 months.

### **12. General - Prices**

Unless approval has been obtained from SENTECH, no adjustment in contract prices will be made.  
Applications for price adjustment must be accompanied by documentary evidence in support of any adjustment.

### **13. Price Negotiations**

SENTECH reserves the right to negotiate market related prices. If market-related prices are not agreed to, SENTECH reserves the right to cancel the Bid.

### **14. Liabilities indemnities and insurance**

Insurance is required from the Bidder in respect of delivery and transportation where applicable.

### **15. Disputes**

Should any dispute, disagreement or claim arise between the parties ("the dispute") concerning this Agreement, the parties shall try to resolve the dispute by negotiation. This entails one party inviting the other party to meet and attempt to resolve the dispute within fourteen (14) days from the date of the written invitation.

If the dispute has not been resolved by such negotiation as referred to in this clause above, the Parties shall submit the dispute to the Arbitration Foundation of Southern Africa ("AFSA") for administered mediation, upon the terms set out by the AFSA secretariat.

Failing such resolution, the dispute shall be resolved by arbitration in accordance with the rules and procedures of AFSA by an arbitrator appointed by AFSA. Where the arbitration route is followed, the dispute must be adjudicated within Johannesburg in the English language and finally resolved in accordance with the rules of AFSA, by an arbitrator or arbitrators appointed by that Foundation.

The provisions of this clause shall not preclude any party from obtaining relief from a Court of competent jurisdiction. To this extent, the Parties hereby consent to the jurisdiction of the South Gauteng High Court, Johannesburg, South Africa. The provisions of this clause shall continue to be binding on the Parties, notwithstanding any termination or cancellation of this Agreement.

### **16. Termination**

SENTECH shall have the right, at its sole and exclusive discretion, upon written notice to the Bidder, to terminate this Agreement, in whole or in part should the Bidder fail to perform any of its obligations or deliver any deliverable timeously or should SENTECH not be satisfied with the quality of any service/s in terms of this Agreement, to the satisfaction of SENTECH.

SENTECH shall furthermore have the right, as a result of such termination, to appoint a third party to perform the obligations of the Bidder in terms of the Agreement and the Bidder indemnifies SENTECH against all costs incurred by SENTECH in appointing such third party to fulfil the obligations of the Bidder.

SENTECH shall have the right, at its sole and exclusive discretion, to terminate this Agreement, at any time, upon 30 (thirty) days' written notice to the Bidder.

### **17. Contract Term**

This contract will run for a period of \_\_\_\_\_ months.

### 18. Supplier Due Diligence

SENTECH reserves the right to conduct supplier due diligence at any time pre, during and post the contract period. This may include announced or unannounced site visits.

### 19. Cession

SENTECH shall be entitled to cede, delegate, assign, charge, transfer or otherwise dispose of this Agreement or any rights or obligations therein in whole or in part, upon prior written notice to the Bidder.

### 20. Monitoring and Evaluation

The service delivery and performance of the Bidder will be monitored and evaluated by SENTECH at all relevant times. In the event that the Bidder defaults in any manner or form, SENTECH reserves the right to blacklist the Bidder on the National Treasury Database of Prohibited Suppliers and Tender Defaulters, and to take such further steps as may be warranted in the circumstances which steps shall be determined at SENTECH's sole and exclusive discretion.

### 21. Protection of Personal Information Act No. 4 of 2013 ("POPI")

SENTECH is POPI compliant and the Bidder will ensure that it conducts itself within the prescripts of the prescribed legislation.

Should SENTECH need to collect Personal Information by law or in consideration of the Tender, and the Bidder fail to provide the Personal Information when requested, SENTECH may refuse to accept the relevant services from the Bidder, and the Bidder will be notified in this event.

By agreeing to the terms of this Agreement, the Bidder voluntarily authorizes SENTECH to process its' personal information (including its' name, credit card & banking details, physical address, telephone numbers, reference letters & any other information it has provided to SENTECH) for purposes of Tendering and contracting.

The Bidder consents to the transfer of such personal information to third parties.

This consent is effective immediately and will endure until the relationship between the Bidder and SENTECH has been terminated.

The Bidder indemnifies and holds SENTECH harmless against any loss, whether direct or indirect, arising out of the failure to process any of its' personal data in accordance with applicable laws.

### 22. Delay damages

As stipulated in the Special Conditions of Contract.

### SENTECH's Representative is

Name: Mr Zunaid Adams

Address: **SENTECH SOC LIMITED,**  
Sender Technology Park  
Octave Road  
Radiokop  
Honeydew  
Johannesburg

Tel No. 0114714400

Email: adamsz@SENTECH.co.za

SENTECH's Representative is the Executive: Legal and Regulatory.

## Contract Data

### Part two - Data provided by the Bidder Statements given in all contracts

#### The Bidder is:

Name \_\_\_\_\_ Address \_\_\_\_\_

\_\_\_\_\_

a company / close corporation / partnership duly incorporated in accordance with the laws of the Republic of South Africa.

## PART C2: PRICING DATA Price List

### Financial Quotation

#### Tender Prices

- No change in the submitted tender prices shall be countenanced after receipt of Tender reply and before award of a Contract.
- In the case of equipment supplier from outside the Republic of South Africa, prices must be quoted in the currency of the country of origin of the bidder. **Prices must be based on a delivered, duty paid cost (VAT, Ad Valorem, insurance etc.) for delivery to Sentech in Honeydew, Gauteng, South Africa.** Sentech will apply the prevailing exchange rate to convert the price to Rand at the time of tender closure for evaluation in order to deduce all price offers to a comparative price.
- In the case of equipment supplied in the Republic of South Africa, prices are to be quoted in Rand, VAT excluded, based on delivery to Sentech at Radiokop, Honeydew, South Africa. A South African bidder that offers an international product must indicate clearly what exchange rate was used to calculate the price in ZAR.
- In the case of equipment partially supplied in the Republic of South Africa and partially elsewhere, the total price must be broken up into its relevant proportions and quoted as above.
- All alternate offers must be indicated after the compulsory pricing
- All items should have a corresponding price as per Bill of Material.
- Pricing must be firm and guaranteed for 12 months from award of tender and pricing for support must be guaranteed from date of commissioning.
- The Pricing description must indicate size, capacity, number of ports available and description of equipment.
- The contract is not limited to the devices listed in Part C2: Pricing Data, under Price List- Compulsory (which was used for evaluative purposes only) but includes any devices from the same OEM listed under Price List- Additional.
- Pricing will be based on the figure 1 below.

#### Exchange Rates to be used in the Pricing Table

1 US Dollar (\$) - R16,50

1 Euro (€) - R19,50

#### 1. Pricing Format Line Items:

Price List - Compulsory					
1.1. Antenna Control Unit (ACU):					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
				Sub-Total Cost (ZAR)	



1.2. Tracking Receiver Unit (TRU):					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.3. Power Drive Unit (PDU):					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.4. Installation Material IMAT:					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.5. Integration of Antenna Controller System into Dataminer NMS:					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.6. Professional Services					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.7. Training					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.8. Delivery and Unpacking					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Sub-Total Cost (ZAR)					

1.9. Integration of Antenna Controller System into Dataminer NMS					
Product	Model Name	Description	Comments	Unit Price \$ / € / £	Unit Price ZAR
				Sub-Total Cost (ZAR)	
<b>Grand Total (Exclude VAT)</b>					
<b>Grand Total (Include VAT)</b>					

**Note: Power cables, control cables, interconnect cables, to be supplied as part of this tender.**

**2. Recommended Spares, Support and Maintenance:**

2.1. The bidders are to provide a list of recommended spares to limit down time.

**A separate pricing list must be provided for the list of recommended spares. This price list must not to be included in the price list for compulsory equipment and services.**

Recommended Spares					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Total Cost (ZAR)					

2.2. Complete system support maintenance costs for a period of three (03) years.

A separate pricing list must be provided for Support and Maintenance. This price list must not be included in the price list for compulsory equipment and services.

Support & Maintenance					
Product	Model Name	Description	Comments	Unit Price \$ / €	Unit Price ZAR
Total Cost (ZAR)					

## PART C3: SCOPE OF WORK SENTECH'S GOODS INFORMATION

### 1. TECHNICAL REQUIREMENTS

#### 1.1. Glossary of Terms

Abbreviations	Description
BDC	Block Down Converter
CoC	Certificate of Compliance
DB	Distribution Board
ACU	Antenna Control Unit
STP	Sender Technology Park
TRU	Tracking Receiver Unit
IMAT	Installation Materials
PMU	Portable Maintenance Unit
PDU	Power Drive Unit
MCU	Manual Control Unit
LNA	Low Noise Amplifier
MTTF	Mean Time to Failure
MTTR	Mean Time to Repair
SOC	State Owned Company
NMS	Network Management System
AZ	Azimuth
EL	Elevation
POL	Polarization

Sentech is currently undertaking a project to upgrade and refurbish the antiquated antenna controller systems on satellite antennas at its C-Band and Ku-Band facilities located at Sender Technology Park (STP) in Radiokop. Sentech's intention with this tender is to replace the current obsolete antenna controller systems and retrofit new ones.

## Introduction

Sentech SOC, as part of the Sentech Ku-Band and C-Band Refurbishment Plan, requires the replacement of the now antiquated antenna controllers to be replaced with new systems. The new system must be retrofitted to the existing antennas.

## 2. Requirements

### 2.1. TECHNICAL INFORMATION AND REQUIREMENTS

The technical requirements for the system required are as follows:

#### 2.1.1. Antenna Control System Specifications:

- 3.1.1.1 The antenna control and tracking system must include Antenna Control Unit (ACU), Power Drive Unit (PDU), Beacon Receiver Unit (TRU), Portable Maintenance Unit (PMU), Resolvers/ Transducers, Limit Switches and Dual speed Motors
- 3.1.1.2 3 axis antenna control on Ku-Band (Linear) or 2 axis antenna controls on C-Band (circular)
- 3.1.1.3 Ethernet as an interface between indoor and outdoor units (ACU - PDU) provided surge protectors are used, or alternatively, Fibre Optic.
- 3.1.1.4 Extensive diagnostic monitoring and test capabilities with detailed status for easy troubleshooting
- 3.1.1.5 Antenna controllers must have the functionality to be operated and controlled remotely via a web browser.
- 3.1.1.6 Antenna controllers must be integrated with current NMS (Dataminer).
- 3.1.1.7 Bidder to provide the Dataminer drivers required to integrate the antenna controller to the current Dataminer NMS.
- 3.1.1.8 Antenna controllers must have the ability to be able to be connected to current Telemetry system (via SNMP).
- 3.1.1.9 High accuracy transducers of at least 16-bit resolution
- 3.1.1.10 Antenna control system must use Size 11 resolvers
- 3.1.1.11 The antenna control system must have Optrack capability. This capability provides high performance tracking of stable or inclined orbit satellites.
- 3.1.1.12 Antenna Control Units must have easy touch screen operation.

#### 2.1.2. Power Drive Unit (PDU):

- 3.1.2.1 The unit shall be located outside the building (outdoor equipment)
- 3.1.2.2 System shall have single phase electronics.
- 3.1.2.3 Control motors shall be dual speed with jog function.
- 3.1.2.4 PDU shall provide control to the AC drive motors

#### 2.1.3. Tracking Receiver Unit (TRU):

- 3.1.3.1 Tracking Receiver Unit must be Digital

#### 2.1.4. Antenna Control Unit (ACU):

- 3.1.4.1 The Antenna Control Unit shall be powered from a single-phase supply 240V.
- 3.1.4.2 The unit shall be housed indoors.

#### 2.1.5. Manual Control Unit (MCU):

- 3.1.5.1 To be provided as an optional equipment.

#### 2.1.6.1:1 Portable Maintenance Unit (PMU):

- 3.1.6.1 PMU must be handheld
- 3.1.6.2 Unit must have controls and status indicators to execute manual control and position jogging for all axes of antenna control i.e. Azimuth (AZ), Elevation (EL), and Polarization (POL).
- 3.1.6.3 PMU must have a pendant cable and connector that can be plugged in at the PDU or a PMU J-Box.
- 3.1.6.4 PMU is independent of the Antenna Control Unit (ACU) and can take control when control is offered by the ACU or when the ACU is powered down.

#### 2.1.7. Network Monitoring and Control:

- 2.1.7.1. The antenna controller system must be able to be integrated into Data Miner Network Monitoring and Control System. The NMS should provide an overview of the complete system as well as control of the components attached to the system.

#### 2.1.8. Cabling and Accessories:

- 3.1.8.1 All intra system and inter system cabling including control, signal and monitoring cabling must be provided and quoted for.
- 3.1.8.2 Cabling for monitoring points at the antenna and the equipment room must be provided for.
- 3.1.8.3 All indoor equipment monitoring points that are not accessible from the front panel of that specific equipment must be provided for on a monitoring panel which is to be supplied and installed according to the equipment supplied.

**2.1.9. Position Transducers:**

- 3.1.9.1 Resolvers shall have a resolution of at least 16-bit.

**2.1.10. Professional Services:**

- 3.1.10.1 The successful tenderer will be responsible for the supply, installation, calibration, testing and commissioning of the proposed system and components.
- 3.1.10.2 The successful bidder will be responsible for integrating the antenna control systems supplied to the existing antenna.
- 3.1.10.3 The tenderer will be responsible for the unpacking and inspection of the equipment once they have been delivered to site.
- 3.1.10.4 SENTECH will be responsible for civil works, if required and the provision of 3 phase and single-phase power on site.
- 3.1.10.5 The successful tenderer will be responsible for all electrical connections required to the equipment supplied as part of this tender. This will include rack power points, power cables, circuit breakers etc. This must be done by a qualified electrician with an electrical CoC to be provided as part of the as build document.
- 3.1.10.6 Where necessary, install a mini-DB at the antenna. Enclosure shall be specified as minimum IP66.
- 3.1.10.7 The bidder will be responsible for the specification of all electrical equipment including cables required for the installation, as per SANS 10142.
- 3.1.10.8 Provision of the electrical circuit breakers and cables for the integration to the main DB. The bidder will pull in the cable from antenna to the main DB, but the connections to the Main DB will be done by Sentech.
- 3.1.10.9 The bidder shall provide the circuit breaker and cable needed to provide power to the Power Drive Unit (PDU).
- 3.1.10.10 The circuit breakers in the Main distribution board (DB) and sub distribution board shall be curve 1 type.
- 3.1.10.11 All metallic outdoor enclosure shall be connected to the mechanical earth.
- 3.1.10.12 Provision of electrical isolator in the sub distribution board (outdoor).

**2.1.11. Training:**

- 3.1.11.1 Onsite level 2 training must be provided for the system proposed. However, should there be a higher-level training available it can be offered to Sentech.
- 3.1.11.2 The system level of training to be provided by the successful bidder should be level two training defined as follows: Level Two Intermediate training which is intended for a technical audience who have some knowledge of the subject matter but who need additional information on the technology, architecture, protocol, design, deployment and troubleshooting details.

**2.1.12. Delivery and Unpacking:**

- 3.1.12.1 Total Cost of Delivery for Equipment and Items offered as Part of this Tender to Sentech STP
- 3.1.12.2 Cost of Packaging as per the Sentech Requirements as Indicated in the Scope of Works
- 3.1.12.3 Cost of Unpacking and Preparing Equipment for Installation offered as Part of this Tender
- 3.1.12.4 The Removal of Installation Material, Packing Material, Crates, Boxes and General Site Clean-up.

**2.1.13. The following will apply to power cables, control cables, interconnect cables, and any other cables to be supplied as part of this tender:**

- 3.1.13.1 Cabling price should include the base price for standard length of cable as supplied by the manufacture for the equipment concerned as well as pricing for additional lengths where applicable
- 3.1.13.2 Cable lengths will be calculated by the supplier considering their system design.

#### **2.1.14. ENVIROMENTAL REQUIREMENTS**

The following environmental requirements must be met for the systems proposed:

- 2.1.14.1. **In Door Equipment:**
- 2.1.14.2. Operating temperature: 0° C to 40° C
- 2.1.14.3. Humidity: Up to 85% non-condensing
- 2.1.14.4. **Outdoor Equipment:**
  - 2.1.14.4.1. Operating temperature: -5° C to 50° C
  - 2.1.14.4.2. Humidity: 100% condensing
  - 2.1.14.4.3. Altitude up to 2000 meters AMSL or more

#### **2.2. CORROSIVE PROTECTION**

##### **2.2.1. Steel Works**

- 2.2.1.1. Tenderer must specify to what standard all steel work is galvanised and, if these standards are not the South African Bureau of Standards specification no 763-1977, the tenderer must provide a reference to which standard the steel works is galvanised from the country of origin.
- 2.2.1.2. The standard of which must be acceptable to Sentech. If this standard is not acceptable to Sentech the successful Tenderer may be instructed to accept the standards for galvanising of the South African Bureau of Standards, per Specification no. 763-1977.

##### **2.2.2. Non-Ferrous Materials**

- 2.2.2.1. The use of dissimilar metals, resulting in corrosion due to electrolysis, must be minimized.
- 2.2.2.2. It is required that, where dissimilar metals come into contact, the surfaces shall be plated with cadmium or nickel, or a similar material such that corrosion due to contact potential in the presence of moisture does not occur.

##### **2.2.3. Fastener sets.**

- 2.2.3.1. The use of plated nut and bolt sets are to be limited.
- 2.2.3.2. Corrosion strips the plating within a very short period. It is therefore important that fastener sets be offered with high resistance to corrosion and at the same time not react with metal components that it comes into contact with.
- 2.2.3.3. The bidder must indicate the method used in protecting fastener sets.

#### **2.3. SAFETY OF PERSONNEL AND EQUIPMENT PROTECTION**

All equipment supplied in response to this tender enquiry shall comply with the following safety and protection requirements:

##### **2.3.1. Personnel Safety**

- 2.3.1.1. The equipment supplied in terms of this specification shall comply with the safety requirements of the following:
- 2.3.1.2. Dangerous Voltages: All terminals and/or wiring, carrying dangerous voltages, shall be adequately shrouded and or insulated to prevent bodily contact by personnel.
- 2.3.1.3. Equipment shall be designed and constructed to provide protection to operation and maintenance personnel against accidental contact with high voltages in excess of 72 Volt peak.
- 2.3.1.4. Where hazardous voltages are employed, a cautionary notice shall be provided on the cover of the unit involved.
- 2.3.1.5. Shields or covers shall be provided to isolate dangerous voltages unless positive removal of the voltage is provided before access can be gained. Such shields or covers shall be clearly labelled to indicate the presence of such voltages.
- 2.3.1.6. The successful bidder will provide Sentech with a copy of the company health and safety file including mast climbing certificates and medical certificates for all personal working on the antenna within 20 working days of the award of this tender. The safety file will have to be approved by the Sentech OHSE officer and any changes if required by Sentech will have to be completed before commencement of installation.

#### **2.4. HANDBOOKS, SYSTEM DRAWINGS AND TEST REPORTS**

- 2.4.1. Three complete set of handbooks and a soft copy on an electronic medium e.g. Compact Disk (CD) covering all installation, maintenance, operation and calibration procedures, written only in the English language, must be supplied with the equipment in respect of this tender document.
- 2.4.2. These handbooks are to include a comprehensive description of all equipment and auxiliary equipment, parts lists, test reports and all other mechanical and electrical drawings necessary for the installation, operation and maintenance of the equipment.



- 2.4.3. Tenderers are seriously required to note that unless the above-mentioned handbooks have been delivered to Sentech, the equipment delivery will be deemed to be incomplete, even though the said equipment may have been put into scheduled service.
- 2.4.4. All electrical and mechanical drawings must be worded in English language - an attached list of translations will not be accepted.
- 2.4.5. Tenderers are to note that the detailed information and drawings specified above must also be provided for all ancillary equipment, and all other equipment which is not manufactured by the Tenderer himself but as part of the overall system.
- 2.4.6. Handbook supplied must contain a comprehensive parts list containing every part and/or component used in the equipment.
- 2.4.7. This list is to include all relevant details of the components such as: -The Tenderer part number, which must be a unique number assigned to every different component in the list, the manufacturers part/component name and type number.
- 2.4.8. The cost of all the above-mentioned handbooks, drawings and test reports are to be included in the tender price and will form part of the contract price.

## **2.5. MAINTENANCE**

### **2.5.1. A Description of the Following Must be Provided:**

- 2.5.1.1. A brief description of typical procedures.
- 2.5.1.2. Lists of specialised equipment required.
- 2.5.1.3. Brief descriptions of all alignment procedures.
- 2.5.1.4. A table of typical maintenance time schedules.
- 2.5.1.5. Tenderers are required to include in their submissions the expected MTTF and MTTR of the system offered.

## **2.6. DELIVERY**

- 2.6.1. Sentech requires the successful bidder to provide guaranteed delivery dates for all equipment and services ordered as part of this tender.
- 2.6.2. All equipment supplied as part of the tender document shall be delivered to Sentech STP, Octave Street in Honeydew for documentation and installation
- 2.6.3. Insurance will be for the responsibility of the supplier.

## **2.7. INSTALLATION**

### **2.7.1. Installation arrangements**

- 2.7.1.1. In order for Sentech to prepare itself for installation, the contractor must supply detailed installation information well in advance of the delivery dates. In particular.
- 2.7.1.2. Critical aspects of the installation must be highlighted.

## **2.8. GUARANTEE**

- 2.8.1. Tenderers shall indicate in their tender submissions the scope and duration of the guarantees for the equipment offered.
- 2.8.2. The minimum duration of the guarantee shall be twelve (12) months from delivery.
- 2.8.3. Sentech requires the Tenderer and not the Tenderers sub-contractor, to be responsible for the guarantees for all equipment supplied in terms of the contract.

## **2.9. OCCUPATIONAL HEALTH SAFETY AND ENVIRONMENTAL PROJECT FILE**

Please note that the supplier will be required to comply with Health and Safety, OHS act and will be required to develop a Safety File for the installation prior to commencement of work.