

## 1. Scope Of Work

Sentech requires the services in respect of, *inter alia*, to assist with planning, supply, installation, and commissioning of 15 unlicensed Point to Point links for Sentech in the Northwest, Limpopo, Mpumalanga and Free state provinces. The proposed new links can consist of any approved vendor.

### Response To RFQ

#### 1.1.1. The planning and deployment of 15 Point-to-point links in the unlicensed band. This includes:

- 1.1.1.1. Complete detailed plan of the links as required. (See attached equipment specifications point 2.3 to adhere to)
- 1.1.1.2. Bill of materials to complete the entire network.
- 1.1.1.3. Provide a resource plan, this must include planning and deployment resources require (All installation work needs to be completed within 4 weeks from appointment).

#### 1.1.2. The Bill of Materials Should include the following:

- 1.1.2.1. Link Equipment (Antenna specifications, ODU Specifications, IDU Specifications)
- 1.1.2.2. All Cabling
- 1.1.2.3. All Installation Materials required
- 1.1.2.4. Bracket and pole specifications
- 1.1.2.5. Resource requirements
- 1.1.2.6. Rack Space required
- 1.1.2.7. Power consumption of equipment
- 1.1.2.8. As-Built documentation

**(Provide costing in Annexure B)**

#### 1.1.3. Network (Deployment, Equipment, etc.) Costing must be based on:

- 1.1.3.1. Equipment Pricing
- 1.1.3.2. Installation Pricing (Must include all Travel and accommodation)
- 1.1.3.3. Transport Costs (Courier costs, Delivery costs, Travelling)
- 1.1.3.4. Installation Material Costs

**(Provide costing in Annexure B)**

If there are any changes in link requirements from the link plan this needs to be communicated to Sentech with motivation thereof and costing of the required changes. These changes must be kept to a minimum. There is no guarantee that the changes would be approved.

#### 1.1.4. The bidder will be responsible for:

- 1.1.4.1. Complete deployment of the links.
- 1.1.4.2. Weekly updates of the project plan
- 1.1.4.3. Daily updates of installed and commissioned sites.
- 1.1.4.4. Handover documentation must be sent to Sentech within a week of the completion of sites per site.

## 1.2. Annexures

- 1.2.1. Annexure B: Pricing Templates to be used
  - a. Link Pricing Based on a 15km link
  - b. NMS Pricing
  - c. Training Pricing

- 1.2.2. Access test requirements (Layer 2)

The Ethernet service provisioned shall adhere to the following Service Level Agreement (SLA) parameters, as a minimum:

Item	Thresholds
Throughput (Committed Information Rate)	250 Mbps
Latency (Frame Transfer Delay)	70 ms round trip
Frame loss Ratio	<=1%
Jitter (Frame Delay Variation)	30 ms (maximum)
MTU size	1518

Table 1: Ethernet SLA Parameters

**Note:** The Ethernet test duration shall be a minimum 20 minutes.

## 1.3. Specifications

- 1.3.1. **Microwave Link planning: Links must be planned to utilize the following specifications:**

- 1.3.1.1. Distance of 15km
- 1.3.1.2. Minimum 250 Mbps full duplex (250:250) per link (Supply maximum upload and download ratio)
- 1.3.1.3. Support VLAN's
- 1.3.1.4. Support Layer-2 and Metro Ethernet
- 1.3.1.5. Support QinQ (Trunk Ports)