



AFRICA MOBILE NETWORKS LTD

REQUEST FOR PROPOSAL (RFP)

FOR

**SUPPLY OF VSAT EQUIPMENT FOR RURAL MOBILE
NETWORK IN BENIN**

AMN REFERENCE: RFP1304-4

OCTOBER 3RD, 2013



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1. INTRODUCTION

AMN has a contract with a licensed mobile network operator (the “MNO”) for the construction and operations & maintenance (O&M) of 200 mobile network base stations, all located in rural areas within Benin.

The contract in Benin is the first of 12 similar contracts that AMN will sign for different countries throughout sub-Saharan Africa for a total of approximately 5,000 base stations. All base stations will be deployed by December 2017.

This Request For Proposal (RFP), AMN reference RFP1304-4, is for the supply, delivery and installation of a VSAT Teleport, NOC and 200 VSAT terminals for the mobile network base stations in Benin.

Version 2 adds requirements for Adaptive Coding and Modulation (ACM) and in-route cancellation functionality plus request for statement on Ka-band capability. Version 3 corrects a typo in Section 7.1. Version 4 modifies the requirement for the first site to be a point-to-point link from the base station directly to Cotonou.

2. PROPOSAL CONDITIONS

Proposers are responsible for their own costs in preparing proposals. AMN accepts no responsibility for any costs incurred by proposers as a result of this RFP.

AMN reserves the right not to make any contract award, or to award part of the work described in this document.

3. RFP DUE DATE AND VALIDITY

Proposals are due by close of business on Thursday October 31st, 2013. Proposals submitted after this date may not be considered in the evaluation. Proposals should be in English and emailed to md@africamobilenetworks.com.

Proposals should quote reference number RFP1304.

Proposals should be valid for 90 days.

4. EVALUATION CRITERIA

The successful bidder will be selected on the basis of the lowest compliant bid. Bidders are requested to provide a detailed capability statement to demonstrate their qualifications for the work, and to provide reference examples. Proposals should include:

- Capability Statement
- Technical Proposal
- Commercial Proposal
- Reference Cases

AMN reserves the right to include additional criteria in evaluating bids and to make a selection based on the proposal it deems to be in the best interests of AMN.

5. DELIVERY SCHEDULE

The build phase for the mobile network base stations is divided into 3 phases:

PHASE	MONTHS ARO	SITES PER MONTH	TOTAL SITES
1	2	1	1
2	7 TO 12 INCLUSIVE	10	60
3	13 TO 35 INCLUSIVE	6	138
	36	1	1
TOTALS			200

Where ARO means After Receipt of Order.

The Phase 1 deployment of a single base station will use a point-to-point VSAT link to Cotonou, Benin. The dedicated VSAT Teleport and NOC will be installed at month 6.

6. TECHNICAL REQUIREMENTS

The VSAT network supplied must generally be fit for the purpose of meeting the connectivity requirements of mobile network communication services in rural areas in Benin, including but not limited to the requirements below.

General Requirements

- Ku-band. Proposers should indicate ability to support Ka-band.

- VSAT links to support an average peak rate of 64Kbps full duplex with total throughput during busy hour (8.30-9.30pm) of 12.8Mbps for 200 sites
- Scalable to 300 sites at average 96Kbps
- QOS support for the CBR voice service, with latency <650ms, packet loss 1×10^{-6} and jitter ± 10ms for 97% of packets
- Support for additional 5Mbps of internet (best efforts QOS) shared across complete network
- Include support for installation, commissioning of NOC and inter-working tests with the MNO

Phase 1 (1 Base Station) VSAT Terminal Requirements

- Connection via point-to-point link (SCPC or equivalent) from base station to Cotonou, Benin
- Link availability (end-to-end) of 99.5%
- Antenna size and BUC power at base station to be determined by proposer to meet availability requirements, with dish of 1.8 metre or less preferred. VSAT modem may be replaced when site is transitioned to dedicated TDMA hub in month 6, but antenna and BUC should ideally not need replacement.
- Cotonou link VSAT (dish, BUC, modem) to be specified
- Satellite bandwidth requirements to be stated by proposer
- SNMP support
- Ethernet interface, 2 ports preferred
- Environmental requirement is tropical, 100% humidity and >25 degC ambient temperature
- To be mounted on communications tower, bracket to be included or free-standing pole
- VSAT installation and maintenance training material for AMN technicians (to be delivered by AMN trainers)
- Warranty of 12 months or greater (24 months preferred)

VSAT Teleport and NOC

- Teleport link availability of 99.9%
- Antenna size and HPA power to be determined by proposer to meet availability and bandwidth requirements
- Non-redundant Tx/Tx chains, with cold-standby spares list to be proposed
- Scalable to support up to 1,000 VSAT terminals
- Adaptive Coding and Modulation (ACM)
- In-route cancellation, whereby return channels (VSAT to NOC) uses the same frequency band as the out-route (NOC to VSAT) carrier

- Includes SNMP-based NMS with remote monitoring (via VPN over internet) functionality
- Environmental requirement is tropical, 100% humidity and >25 degC ambient temperature
- Include documentation and on-site training for AMN technical staff

Phase 2/3 (200 Base Stations) VSAT Terminal Requirements

- Base station link availability of 99.5%
- Antenna size and BUC power to be determined by proposer to meet availability requirements, with dish of 1.8 metre or less preferred
- SNMP support
- Ethernet interface, 2 ports preferred
- Environmental requirement is tropical, 100% humidity and >25 degC ambient temperature
- To be mounted on communications tower, bracket to be included
- VSAT installation and maintenance training material for AMN technicians (to be delivered by AMN trainers)
- Warranty of 12 months or greater (24 months preferred)

7. COMMERCIAL REQUIREMENTS

7.1. PRICING REQUIREMENTS

All prices to be submitted in US dollars.

Prices should be broken down as follows:

- RFT and HPA with Tx/Rc RF and IF chains
- VSAT baseband NOC including additional routers/switches for internet connection for remote monitoring and management
- VSAT remote terminals, total 200 plus 10 spares; unit price per site, FOB country of origin
- Point-to-point modems for phase 1 site requested on loan basis for 6 months.
- Shipping costs per site (consistent with the delivery schedule in Section 5)
- Import duties, taxes and customs clearance
- Option price for in-country logistics and installation/commissioning on site
- Any additional sales taxes which apply

The following upgrade pricing options are also requested

- FOB prices, country of origin



- Shipping, duties, taxes and customs clearance
- On-site installation and commissioning (Teleport/NOC only)

7.2. PAYMENT REQUIREMENTS

Letter of Credit issued for Teleport and NOC equipment in month 6. Invoices for 50% of unit prices should be issued

- On shipment
- On completion of installation and commissioning by supplier.

Letters of Credit will be issued for VSAT terminals for Phase 2 in month 6 and for Phase 3 in month 12. Invoices for 50% of unit prices should be issued

- On shipment
- On completion of installation by AMN.