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NOTIFICATION OF BID EXTENSION AND CLARIFICATION RESPONSE

Sourcing Department |04, January 2024

To: ALL PARTICIPANTS

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Reference: SCD/SD//TS-3/06/24

It is to be remembered that, ethio telecom has issued International Competitive Bid for the procurement of ***"Satellite Bandwidth Service" with*** RFQ NO. **4250892**; with a floating period from December 18,2023 3 to January 09, 2024. In connection to this, some of the bidders have requested us clarification on the technical issues and extension of bid closing and opening dates.

Following this, to give sufficient time for our esteemed bidders, we would like to extend the bid closing and opening date by Fifteen (15) days. Therefore, bidders are expected to submit their proposal on or before January 24, 2024 until 5:00PM and the bid opening shall be held January 25, 2024 in the morning at 10:00AM.

Nº	Summary of Bid Closing & Opening dates		Remark
1	Previous Bid Closing Date	New Bid Closing Date	**until 5:00PM**
	January 09, 2024	**January 24, 2024**	
2	Previous Bid Opening Date	New Bid Opening Date	**at 10:00AM**
	January 10, 2024	**January 25, 2024**	

Hence, please consider the enclosed clarification responses along with the bid requirements and submit your technical & commercial offers until January 24, 2024.

Best regards,

Ashrek Hairedin
Sourcing Manager
(Technical -3)

Ethio telecom Head Office
Federal Democratic Republic of Ethiopia

Encl. Clarification Response (4 Page)

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Clarification Response for Satellite Bandwidth Service RFQ#4250892

1. Manufacturer's Authorization Form:
    - We do not manufacture equipment, we provide services. Is this requirement still mandatory for us?

    ANS: - MAF is not mandatory.

2. Manufacturer's Product Data Sheet
    - We do not manufacture equipment, we provide services. Is this requirement still mandatory for us?

    ANS: - Product sheet is not mandatory.
3. As the service is Bandwidth and not equipment-can the ISO9001 be excluded as a requirement?

    ANS: -ISO9001 is not Mandatory.
4. Local Operator Requirement:
   Could you please clarify if the bidder is required to collaborate with a local operator to fulfill the tender requirements?

    ANS: No local operator is required.

5. Spectral Efficiency
    - The spectral efficiency specified for both C band and Ku band is the same. Could this be an error? Please clarify if Ku band is expected to perform the same as C band when the Physics does not allow.

    ANS: - Follow the detail specification Lot-1 line 3.1.14 for C-Band and Lot-2 line 3.2.14 for Ku-Band. The spectral efficacy refers to the proposed satellite power to the requested services in C and Ku-band.

6. a. If the provision of High Throughput Satellite (HTS) is not feasible, may we propose to provide additional throughput under the Low Earth Orbit (LEO) satellite?

    ANS: - Follow the general requirement line 2.4 and refer detail specification Lot-1 line 3.1.1 and Lot-2 line 3.2.1. The proposed satellite should be HTS and Geostationary.

    b. Additionally, are bidders allowed to offer extra capacity on Low Earth Orbit (LEO) satellites, considering the hub and remotes in terms of packages and space segment?
    ANS: - Refer detail specification Lot-1 line 3.1.1 and Lot-2 line 3.2.1. The proposed satellite should be HTS and Geostationary.

7. Clause 2.7: The satellite BW supplier will be responsible to cover with free of cost for any additional BW different from the calculated link budget that may be needed during

    implementation for the VSAT network after contract signed. It is advisable to do the link budget with VSAT HUB manufacturer HNS (Hughes Network System) to avoid any bandwidth gap.

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Please confirm if benchmark is what is defined on item 3.1.14 OR if you will compare our theoretical-calculated Link Budget against values achieved during implementation.

ANS: - Follow detail specification Lot-1 line 3.1.13, line 3.1.14 & Appendix-A and Lot-2 line 3.2.13, line 3.2.14 and Appendix-B to calculate the required bandwidth as per your proposed satellite power and as stated get advice from VSAT Hub manufacturer HNS before submitting the bid.

8. Clause 2.9: The supplier should do HUB antenna orientation, maintain, and replace any failed parts of the existing antenna with free of cost. It recommended to do site survey and check the status of the antenna to be oriented.

   Please confirm definition of "replace any failed parts" – who will responsible to provide the parts to be replaced?

   ANS: - Follow the general requirement line 2.9 and based on your proposed satellite direction, it will require to migrate the existing VSAT services as a result site survey on other idle antennas must be conducted to orient the Hub antenna with free of cost that includes maintenance, and replacement of failed parts depending of the survey result and bidder will be responsible for antenna orientation and all costs that may be incurred.

9. Clause 3.1.14 Spectral Efficiency: Outroute: - > 3.5 b/Hz, Inroute: - > 3 b/Hz

   Based on our LBA , 32APSK can be achieved on Outroute with Clear Sky and 4APSK on Inroute with 99.5% and Outroute/Inroute efficiency 3/2 bit/hz.

   ANS: - Follow detail specification Lot-1 line 3.1.13 & line 3.1.14 and Lot-2 line 3.2.13 & line 3.2.14 for the link budget to calculate to meet the requirements.

10. Appendix B Ku-Band for CBH Service

    We request to submit both KU and C Band in submission to show performance of C Band for CBH service. This is because the proposed C Band has higher availability in addition to HTS functionality.

    ANS: - Follow line 1.1 scope of the bid and detail specification line 3.1 Lot-1 C-Band for Enterprise VSAT service & line 3.2 Lot-2 Ku-Band for CBH Service. You can submit your proposed solution for CBH service using C-band to show the performance and reference only but will not be considered for evaluation.

11. Based on above efficiency we would like to ascertain the required Mbps as expected by Ethio Telecom. Kindly advise the required Mbps so that we can propose MHz higher than 71.2MHz to compensate efficiency.

    ANS: - Follow detail specification Lot-1 line 3.1.13, line 3.1.14 & Appendix-A and Lot-2 line 3.2.13, line 3.2.14 and Appendix-B to calculate the required bandwidth in MHz and Mbps (the mentioned 72.2MHz and 22MHz on cover page and sample forms of the bid document are not mandatory).

12. Would you please share with us the remote sites coordinate of the KU-C Band?

    ANS: The service is covering all over Ethiopia

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13. The satellite BW supplier should bring HTS (High Throughput Satellite) satellite which is supporting higher modulation minimum of 32APSK.
    Can bidders submit non-HTS satellites with lower modulation?
    ANS: - Please follow general requirement line 2.4. The proposed satellite must be HTS

14. The technical specs for the inbound is asking for **10% roll off** at 16 APSK while as per the OEM guide, 16 APSK is only supported at 15% roll off factor. **10% is ONLY** valid for **QPSK** and **8PSK**

1.7.2	**Modulation: -** ○ Forward (FWD): 32APSK ○ Return (RTN): 16APSK
1.7.4	**Roll Off Factor: -** ○ FWD 5% ○ RTN 10%

Below is an excerpt from the LBA guide:

1. TDMA INBOUND SINGLE/ DUAL IFL CABLE (12Msps) with universal modcode wave form

*The system supports the following TDMA- inroute MODCODs and Es/No performance as specified in **Table 2** with a packet loss rate not to exceed 10^{-3}, assuming a symbol rate of 12 Msps, 1440 bit block length and an ideal (AWGN) channel in an IF-to-IF configuration.*

NOTES

- 0 dB ACI
- 1 dB system Margin in the link budget tool
- 1dB clear sky margin to support ACM
- Inbound symbol rates: 256, 512, 1024, 2048, 4096, 6144, 8192 and 12288 Ksps
*- Roll-off Factor: 10% for QPSK and 8PSK, **15% for 16APSK***
- Overhead 12-15% for determining throughput (not to be used in the link budget tool)
- Use Linear BUC with 1.5db OBO for 8PSK, 2.5dB output back off for 16 APSK minimum (varies between BUC vendors and the linearity of the BUC to be verified)

In light of this technical mismatch, please advise on which correct technical specs to apply to the TDMA inbounds.

ANS: - Appendix-A and Appendix-B line 1.7.2 for Modulation and line 1.7.4 for Roll Off Factor, are put for reference that the existing Jupiter VSAT Hub system support and working with 10% ROF and 16APSK modulation. The bidder shall submit the link budget analysis based on the proposed satellite power to meet the requirement line 1.7.2 and line 3.1.14 and 3.2.14. But ROF is not mandatory.

<table>
<tr><th>Item</th><th>Bid Requirement</th><th>Clarification</th><th>ET response</th></tr>
<tr>
<td>TECHNICAL SPECIFICATION Appendix A, Item No. 1.7.1</td>
<td>Data Rate Information per group for shared service: -
<table>
<tr><th rowspan="2">Group</th><th rowspan="2"># of Sites</th><th colspan="2">Service plan in Mbps</th></tr>
<tr><th>FWD</th><th>RTN</th></tr>
<tr><td>1</td><td>330</td><td>1</td><td>0.256</td></tr>
<tr><td>2</td><td>74</td><td>2</td><td>0.512</td></tr>
<tr><td>3</td><td>11</td><td>4</td><td>1</td></tr>
<tr><td>4</td><td>95</td><td>5</td><td>2</td></tr>
<tr><td>5</td><td>38</td><td>10</td><td>2</td></tr>
</table>
</td>
<td>In Term No. 1.7.1 in Appendix A, the service in Appendix A2 is Committed service however we find there is contention ratio written in Appendix A2. Since it is committed service, why there is still contention ratio. And in Appendix A2, in the last service package of FWD 10/</td>
<td>Please follow Appendix-A line 1.7.1 and line 1.7.3 provided data for shared and committed services. The existing service is working with these parameters and the bidder must consider for the link budget analysis and setting the required satellite bandwidth as per your proposed satellite power.</td>
</tr>
</table>

	6 | 4 | 20 | 4 7 | 11 | 30 | 5 **Total** | **563** | | **[A1]** **Data rate information per group for committed service** **Group** | **# of Sites** | **Service plan in Mbps** (**FWD** | **RTN**) | **Contention ratio** (**FRD** | **RTN**) 1 | 4 | 2 | 2 | 4 | 4 2 | 3 | 5 | 5 | 3 | 3 3 | 3 | 10 | 5 | 4 | 2 **Total** | **10** **[A2]**	RTN 5, there are three sites but the contention ratio is written in 1:4.	
TECHNICAL SPECIFICATION Appendix A, Item No. 1.7.3	**Contention ratio for shared service: -** ○ Forward (FWD) 1:16, ○ Return (RTN) 1:12,	In Appendix A, Item No. 1.7.3, FWD Contention Ratio is 1:16 and RTN Contention Ratio is 1:12, but we find in Appendix **A1** that there are sites number in 11 or 4. Normally the number of sites shall be bigger than Contention ratio, would you please clarify.	Please follow Appendix-A line 1.7.1 and line 1.7.3 provided data for shared service. The existing service is working with these parameters and the bidder must consider for the link budget analysis and setting the required satellite bandwidth as per your proposed satellite power..