

# TENDER DOCUMENT

## Procurement of Items for ERNET India's VSAT Network

**Tender No: EI-D/TECH/51-27/2018 dated 09.07.2018**

- Pre Bid : 12.07.2018 at 11:00 AM
- Last Date for submission of queries, if any : 13.07.2018 (05:00 PM)
- ERNET India's response on queries, if any : 20.07.2018
- Due Date of Bid Submission : 06.08.2018 (1:00 PM)
- Date of Opening of Bids : 06.08.2018 (3:00 PM)

Tender Fee : No Tender Fee  
EMD Amount : Rs. 60 lakh (Rupees Sixty Lakh) valid for 225 days from 06.08.2018 and with claim period of 3 months

**By**

**ERNET India**

(An autonomous society under Ministry of Electronics and Information Technology,  
Government of India)

**Block-I, A-Wing, 5<sup>th</sup> Floor, DMRC IT Park, Shastri Park  
Delhi - 110 053**

**TABLE OF CONTENTS**

<b>SECTION</b>	<b>CONTENTS</b>	<b>PAGE NO</b>
A	About ERNET India and its Network	03
B	Instructions to Bidder	04 – 20
C	Tender Requirements and General Terms & Conditions	21 – 27
D	Scope of the Tender	28 – 29
E	Qualifying Criteria for Responsiveness of Tender	30 – 32
F	Technical Requirements	33 – 41
	<b>Annexure</b>	
I	Details of existing items at VSAT Hub, Bangalore and at remote VSAT sites	42 – 43
II-A	High Capacity SCPC VSAT System	44 – 58
II-B	Specifications of miscellaneous items	59 – 60
III	Time schedule	61 – 63
IV	Bill of Material & Pricing Schedule	64 – 69
V	Format of Bank Guarantee (BG and EMD)	70 – 73
VI	Manufacturer's Authorization Form	74
VII	Bidder's Profile	75 – 76
VIII	Service Level Agreement	77 – 78
IX	Format of "Installation and Commissioning Report of VSAT, etc"	79
X	Location of existing HC-SCPC VSAT sites of ERNET India	80
XI	PMA Affidavit	81 – 82
XII	Integrity Pact	83 – 87
XIII	GST Terms	88

## SECTION – A

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### ABOUT ERNET INDIA AND ITS NETWORK

ERNET India is an autonomous scientific society under Ministry of Electronics and Information Technology (MeitY), Government of India (GOI).

ERNET India is providing Internet and Intranet connectivity and other value added services to Government Education and Research Institutions in the country. ERNET India has Captive VSAT CUG network license from DoT. ERNET India's VSAT network is operating in star topology on **normal C-band of GSAT series satellite**. The Hub (central site) is located at Bangalore and VSATs at various Government Education and Research, etc institutions / organizations spread all over the country. Presently, ERNET India is providing (i) DVB-S2 ACM CCM /MFTDMA type Broadband VSATs based on Jupiter technology of M/s Hughes Network Systems, (ii) Normal SCPC VSATs based on Comtech CDM 570 modems; and (iii) High Capacity SCPC VSATs based on Comtech CMD 760 modems.

The emphasis of ERNET India is to widen its network in the country.

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## SECTION – B

### INSTRUCTIONS TO BIDDER

#### 1. Tender

- 1.1 Tender consists of various sections and the Bidder shall go through all the sections of the Tender document and must comply with each section.

#### 2. Compliance

- 2.1 Compliance in the form of '**Complied**' or '**Not Complied**' shall be given against each clause and specification of Tender (compliance may also be given section/annexure wise or an undertaking on the letter head may be submitted for the compliance of entire tender). The relevant document wherever required may be enclosed.
- 2.2 Please note that any deviation from laid down requirement/specification shall be brought out separately in deviation sheets to be attached by the Bidder. Clause 14 shall also be referred.
- 2.3 Each page of the Bid and cuttings/corrections shall be duly signed and stamped by the Bidder. Failure to comply with this requirement may result in Tender being invalidated.

#### 3. Availability of Tender, its Fee and EMD amount

- 3.1 The Tender Document is available on the web site of ERNET India ([www.ernet.in](http://www.ernet.in)) and on Central Public Procurement Portal (CPPP) of Government of India ([www.eprocure.gov.in](http://www.eprocure.gov.in)) and can be downloaded from either location till the due date of bid submission.

The bidder participating in the tender must submit the following EMD amount along with the Technical Part of the bid:

**EMD Amount** : **Rs. 60 lakh- (Rupees Sixty Lakh)**

Note:

- (i) **Tender Fee is NIL**. It is available for download from the above mentioned web sites. In case of any concern, the bidders can contact at the address given at Sr. 3.3 of this section.
- (ii) Earnest Money Deposit (EMD) of said amount must be furnished in the form of an irrevocable unconditional Bank Guarantee /DD /Pay order / Fixed deposit issued by any Nationalized/Scheduled Indian Bank in favour of ERNET India, New Delhi. The Bank Guarantee shall be valid for 225 days from the original "Date of submission of Bids" against Tender Document, i.e. **06.08.2018**.

- 3.2 Bids placed in sealed envelopes should bear the following inscription:-

"Bid for the Procurement of items and services for ERNET India's VSAT network"

"Tender Enquiry No.: **EI-D/TECH/51-27/2018 dated 09.07.2018**

“Pre Bid Meeting: 12.07.2018 at 11:00 AM

“Due Date & Time of bid submission: 06.08.2018 at 1:00 PM.”

“Due Date & Time for Opening of Bids: 06.08.2018 at 3:00 P.M.

- 3.3** Bids placed in sealed envelopes/covers bearing the information as stated in para 3.2 should be received in ERNET India up to 1300 hrs on 06.08.2018 to the following:

Ms. Dimple Bammi, SSO, VSAT operations  
ERNET India  
Block-I, A-Wing, 5<sup>th</sup> Floor, DMRC IT Park, Shastri Park  
Delhi –110 053  
Tel: 011-2217 0589

The bidder must take acknowledgement of their submitted bid from the above officer mentioning date & time of bid submission.

For all matters relating to this tender, the bidder shall have to communicate in writing to the officer as mentioned above. The bidder must take the acknowledgement of their submitted written request from the officer.

#### **4. Modification and Withdrawal of Bids**

- 4.1 The Bidder may modify or withdraw its bid after the bids submission, provided that written request of the modification or withdrawal is received to ERNET India by the Bidder prior to the last date prescribed for the submission of bids.
- 4.2 The Bidder’s modification or withdrawal request for his bid shall be sent by hand to ERNET India. Bidder must take its acknowledgement from ERNET India.
- 4.3 No bid shall be modified subsequent to the last date & time for the submission of bids.
- 4.4 No bid shall be withdrawn in the period between the last date & time for the submission of bids and the expiry of the bid validity period as per tender terms. Withdrawal of a bid during this period may result in the Bidder’s forfeiture of its bid EMD.
- 4.5 In case it becomes necessary for the Bidder to make changes in their original financial bid (on account of technical clarification, deviations, etc. given by ERNET India and to bring the equipment in line with the required specification), the price adjustment or full revised financial bid should be submitted by the bidder in a separate sealed cover before the last date & time of bid submission, duly superscripted as:

**"PRICE ADJUSTMENT TO PART-II, FINANCIAL BID, Against Tender No..... and initial bid submitted on date ..... (Bidder name:....."**

#### **5. Addressing, clarifications/ Amendment in the Tender Document**

- 5.1 Any inquiries regarding clarification/interpretation/queries/contents in connection with this Tender should be sent **in writing only by hand** to Ms. Dimple Bammi, SSO, VSAT operations, ERNET India at the address given at para 3.3 latest by date 13.07.2018 by 05:00 PM. Any queries received after this date / time will not be entertained. The

**prospective Bidders must take acknowledgement of all inquiries/queries given to Ms. Dimple Bammi, SSO, VSAT Operations. Queries received through fax, e-mail, courier, registered post etc shall not be entertained.**

- 5.2 Queries/clarifications sought by the bidder (which will be received within time frame as stated in **para 5.1**) along with ERNET India response will be posted on ERNET India website [www.ernet.in](http://www.ernet.in) and CPP Portal by **20.07.2018**. If there is any delay in posting the ERNET India's response to the queries/clarifications sought by the bidders, the information for the same will be posted on ERNET India's web site. Accordingly, all the bidders must refer ERNET India website and also CPP Portal for the clarification, if any, before last date/extended date of bid submission.
- 5.3 ERNET India may, for any reason, whether at its own initiative or in response to a clarification requested by prospective Bidder, modify the Tender Document by an amendment before last/extended date of bid submission. The same will be posted on ERNET India's website. Thus, all bidders must refer ERNET India website and also CPP portal pertaining to this tender before last date of bid submission.

## **6. Validity of the Bid**

- 6.1 The bids shall be valid for a minimum period of 180 days from the **bid submission date**. During the said period of 180 days, the Bidder shall not be entitled to revoke or cancel the offer or to vary any term thereof. In case of the Bidder revoking or canceling the offer or varying any term in regard thereof, the Bidder's Earnest money deposit shall be forfeited by ERNET India.

In case, it is required to extend the bid validity period, it can be extended by mutual consent of bidders whose bid is under evaluation at that particular stage of time. In such case, bidder is required to extend the validity period of EMD for the extended validity period.

## **7. Language**

The Bidder shall quote the rates in English language and international numerals. The rate shall be in whole numbers. In the event of the order being awarded, the language of all services, manuals, instructions, technical documentation etc. provided for under this contract, will be English.

## **8. Correction in Bid**

All changes, alterations, corrections in the bid shall be signed in full by the person(s) signing the bid with date. No eraser and/or over writing is/are permissible.

## **9. Contents of Bid**

- 9.1 The Bid will be in **two** parts:

- (i) **Part-I (Technical Bid)**
- (ii) **Part-II (Financial Bid)**

9.2 **Part-I - Technical Bid in one sealed cover containing:**

- 9.2.1 The Compliance Statements completed in all respects as given in clause 2 above.
- 9.2.2 Earnest Money Deposit (EMD)
- 9.2.3 Please Note that Tender Fee is NIL and is not required.
- 9.2.4 Power of Attorney/Authorization with a seal of the company, of person signing the bid documents.
- 9.2.5 All documents (signed and stamped) as per the **Qualifying criteria** as mentioned in **Section-E** of this tender must be enclosed. All the relevant information as per **Annexure-VII** must be provided with supporting documents. Bidders not qualifying to the eligibility criteria will be disqualified.
- 9.2.6 List of all clearances, approvals, licenses etc required from various agencies (like DoT, DoS, local bodies, etc) to purchase, establish, operate and maintain the new supplied as well as existing VSATs/ Network items as per this tender should be mentioned in detail.

All types of coordination with various agencies to arrange these clearances, approvals, licenses, etc shall be done by Bidder. **Charges towards these coordination services, if any, should be included in Price Schedule.**

However, ERNET India will provide all necessary documents from its office required to get these clearances, approvals, licenses, etc and would pay/reimburse all charges/fee payable to Government Agency to obtain these clearances, approvals, licenses etc from them on submission of its documentary proof on actual.

- 9.2.7 Complete Bill of Material (un-priced) as per Bill of Material and tender should be quoted in all respect, indicating make & model of items, etc.

9.3 **Part-II (Financial Bid) shall be in another sealed cover containing:**

- 9.3.1 The Financial Bid shall include the price of all line items as given in the Bill of Material & Pricing Schedule at **Annexure-IV**. The bidder shall quote the price of all items line wise and for their full quantity, otherwise the bid is liable to be rejected.
- 9.3.2 Quotes of all items should be in Indian Rupees and the bidder shall use the format as given in **Annexure-IV**.
- 9.3.3 For items at Serial number from 1 to 8 and at serial number 13 of **Annexure-IV**, the Exchange Rate Variation (ERV) Clause as stated under clause number 10.7 of this section shall be applicable, only if the bidder writes "YES" against these items in column 9 of Annexure-IV and the item is actually an imported item.
- 9.3.4 The list of all deliverables shall be fully reflected in the financial bid completed in all respect. In case of any missing information, the bid is liable to be rejected.
- 9.3.5 The prices of all the items shall be in line to the clause 10 of Section-B.

9.3.6 The financial bid shall be submitted in a separate sealed envelope marked "**Financial Bid - Part II**".

## **10. Price**

**10.1 The Bidder shall confirm that quoted prices shall be firm and fixed and subject to no escalation whatsoever till the validity period of the contract or as specified in tender. All items must be quoted in Indian Rupees. The prices must be quoted strictly in the prescribed formats at Annexure-IV.**

Any ambiguity in the prices offered in the prescribed format will lead to rejection of bid.

10.2 Notwithstanding any of the Bidders specific formats for pricing, item-wise cost of each item shall be given to enable a comparative analysis to be made individually of all equipment and services for establishing the network.

10.4 The Bidder shall quote for all the items, services, etc as per the tender. Partial submission of bids will be liable for rejection.

10.5 Any variation in Central/State Government (of India) taxes, like GST, in future and during the validity of the rate contract will be applicable and same will be borne by the purchaser as per Government rules.

10.6 The bidder shall also read carefully the terms mentioned under '**Note**' in **Annexure-IV** (Bill of Material & Pricing Schedule) for its compliance.

10.7 **Exchange Rate Variation (ERV) Clause:** The terms of this clause shall be as below:'

(i) This clause shall be applicable for the items, from serial number 1 to 8 and at serial number 13 of Annexure-IV, against which if the bidder writes "YES" in the column number 9 of Annexure-IV and the item is actually an imported item.

If the bidder writes "NO" or does not write anything or writes any other word against these items in column number 9 of Annexure-IV, then this clause shall not be applicable for those items.

(ii) The price quoted for the item in the bid shall be linked with US\$ (US Dollar) to enable its variations with the exchange rate variation of US\$ in INR.

(iii) However, the price quoted for these items shall remain same as quoted in the bid up to 12 months from the date of signing of rate contract, irrespective of any Exchange Rate Variation of US\$ in INR..

(iv) After 12 months of signing of Rate Contract, if the US\$ Exchange Rate in INR varies by more than 2.5% (either upward or downward), the new value of Item in INR will be calculated by increasing or decreasing its quoted rate, using the following formula:



$B = A \times U2/U1$		
A	=	INR Price of item without GST in the bid (rounded off to nearest one rupee) ;
B	=	New INR Price of Item without GST (rounded off to nearest one rupee);
U1	=	US\$ Exchange Rate in INR on initial bid submission date (up to two decimal places) (as per RBI reference rate);
U2	=	New US\$ Exchange Rate in INR after 12 months from the date of Rate Contract (up to two decimal places) (as per RBI reference rate);
$[100 \times (U2 - U1)] / U1$	=	Percentage of Exchange Rate Variation (in +/-)

- (v) The benefits arising out of downward Exchange Rate Variation shall be passed on to ERNET India (i.e. Procuring Entity). The RBI reference rate printout from RBI web site shall be sufficient for claiming ERV benefits by ERNET India. For this, ERNET India will issue the PO on the bidder on 'INR Price of item quoted in the bid' by indicating that ERNET India will claim the benefit of Exchange Rate Variation and by enclosing the RBI reference rate printout from RBI website of PO's date. In this case, the payment by ERNET India to the bidder will be made on 'New INR Price of item' (i.e. B) by calculating its value with above mentioned formula.

However, in case the bidder feels that Exchange rate has varied further at the time of item's import, then the bidder may further claim the benefit of this ERV clause. For this, the bidder shall provide (a) copies of the import order placed on the supplier, (b) copies of supplier's invoice for the relevant import order and (c) the RBI reference rate printout from RBI web site of supplier's invoice date, to ERNET India. The copies of supplier's invoices shall be of dates within 08 weeks from the date of issuance of POs by ERNET India on the bidder. In case above will be qualified, ERNET India will issue the amendment in its initial PO only to give the benefits of ERV clause to the bidder after submission of above documents by the bidder with request to only provide the benefit of ERV clause. In this case, US\$ Exchange Rate in INR shall be applicable of supplier's invoice date.

- (vi) The benefits arising out of upward Exchange Rate Variation shall be passed on to the bidder (i.e. Selling Entity).

For above, ERNET India will issue the initial PO on the bidder on 'INR price of item as quoted in the bid'. To claim the benefit of this ERV clause, the bidder shall provide (a) copies of the import order placed on the supplier, (b) copies of supplier's invoice for the relevant import order and (c) the RBI reference rate printout from RBI web site of supplier's invoice date, to ERNET India. The copies of supplier's invoices shall be of dates within 08 weeks from the date of issuance of POs by ERNET India on the bidder. In case above will be qualified, ERNET India will issue the amendment in its initial PO only to give the benefits of ERV clause to the bidder after submission of above documents by the bidder with request to only provide the benefit of ERV clause. In this case, US\$ Exchange Rate in INR shall be applicable of supplier's invoice date.

- (vii) After 12 months of signing of Rate Contract, if the US\$ Exchange Rate in INR varies by more than 2.5% (either upward or downward) but again becomes less than or equal to 2.5% after few months, then the new value of Item in INR will not be applicable, i.e. new item values will be calculated only if the Exchange Rate Variation will be more than 2.5%. It may also be noted that no benefit of ERV clause shall be applicable to ERNET India/bidder in case Exchange Rate in INR varies by less than or equal to 2.5%.
- (viii) It may be noted that any amendment in the PO due to any change / variation in the 'New INR Price' due to Exchange Rate Variation clause will not affect any non-monetary terms of PO/ Rate Contract/ tender including time schedule, etc; except the amounts of PO.

## **11. Transfer of Bid Document**

- 11.1 Transfer of Bid Documents by one Bidder to another is not permissible.

## **12. Procedures for Opening of Bid Documents**

- 12.1 Part I containing technical part of the offer will be opened at **1500 hours on 06.08.2018** at the office of ERNET India, Block-I, A-Wing,, 5<sup>th</sup> Floor, DMRC IT Park, Shastri Park, Delhi -110 053. The bidders or their authorized representatives who submitted the bids may present during bid opening.
- 12.2 Part-I of the Bids, accompanied with requisite **Earnest Money**, shall be scrutinized and processed by the ERNET India to ensure whether the same are in confirmatory with the tender requirements. Subsequent queries of ERNET India, if any, on the technical details, clarifications or any other information should be replied positively within the time specified, failing which Tenders shall be finalized on the basis of the information available in the bid. It shall, therefore, be in the Bidders' interest to give complete and comprehensive technical particulars/description and details in the bid.
- 12.3 The financial bid of only those bidders shall be opened whose technical bids have been examined and found technically acceptable. The date & time of opening of financial bid shall be intimated (through any means i.e. Phone/FAX/letter/e-mail, etc) to those bidders whose technical bid have been found technically acceptable and such bidders or their authorized representatives may present during financial bid opening

### **13. Comparison and Evaluation of Bids**

- 13.1 The Bids received to ERNET India will be evaluated by ERNET India.
- 13.2 First, Part-I/the technical bids will be evaluated. The technical bids meeting all terms and conditions of the tender, including all qualifying criteria for responsiveness of tender, shall only be accepted as technically qualified bids.
- 13.3 The Part-II/financial bid of technically accepted bids will only be evaluated. The financial bids shall be financially evaluated based on the bill of material and Pricing Schedule. The Lowest bid (L-1) will be evaluated for total price of all the items mentioned in the Bill of Material and Pricing Schedule including reasonableness of the prices.
- 13.4 Financial comparison of the bids for L-1 shall be made for all items (for all quantities) for their prices up to the site including all freights, insurances and GST. The bidder shall indicate both rate & amount of GST as per format given at **Annexure-IV**.

The bidder shall provide price breakup as per format given at **Annexure-IV**.

It shall also be noted that bidders need to mention the correct rate of GST (and its amount) applicable to each items in accordance to its category & classification & Government guidelines. If it is found that GST mentioned by the bidder is higher than the value which should be as per the item's category & classification & Government guidelines, ERNET India reserve the right to direct the bidder to get it corrected and ERNET India will pay it accordingly.

### **14. Rejection & Return of Bid**

- 14.1 ERNET India reserves the right to reject any or part of Bid without assigning any reason at any time. The documentation submitted by Bidders shall not be returned. ERNET India also reserves the right at its sole discretion, not to award any order under this Tender. ERNET India shall not pay any costs incurred in the preparation and submission of any Bid.
- 14.2 If the Bidder gives wrong information in the Bid, ERNET India reserves the right to reject such Bids at any stage or to cancel the contract, if awarded, and forfeit the Earnest Money and all BGs.
- 14.3 Canvassing in any form in connection with the Tender is strictly prohibited and the Bids submitted by the bidders who resort to canvassing are liable for rejection and EMD will also stand forfeited.
- 14.4 If a Bidder has a relation or relations, employed in the capacity of an officer of ERNET India, the authorizing authority inviting Tender shall be informed of the fact along with the bid, failing which ERNET India, at its sole discretion, may reject the Bid or cancel the contract and forfeit the Earnest Money / BGs.

- 14.5 Bids from bidders without proper authorization from the manufacturers shall be treated as non-responsive and will be rejected. The format and list of such authorization required from the manufacturers of various items is given at **Annexure-VI**.
- 14.6 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. In case of any arithmetical error/ omission of any item/ value, it will be corrected based on its unit price mentioned in the bid. If the bidder does not accept the correction of the errors, its bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.
- 14.7 The Bidder must quote price of each item of Bill of Material and Pricing Schedule (**as at Annexure-IV**), otherwise bids are liable to be rejected.
- 14.8 Bids, in which any of the particulars and prescribed information are missing or are incomplete, in any respect and/or prescribed conditions are not fulfilled, shall be considered non responsive and are liable to be rejected.
- 14.9 No deviation in the required technical items will be accepted.
- 14.10 ERNET India may waive any minor non-conformity or irregularity in a bid which does not constitute a material deviation. ERNET India's decision in this regard shall be treated as final.

## **15. Earnest Money**

- 15.1 The Earnest Money Deposit (EMD) amount of **Rupees 60 lakh (Rupees Sixty Lakh)**, shall accompany the bid. The EMD shall be furnished in the form of an irrevocable unconditional Bank Guarantee/ DD / Pay order/ Fixed Deposit issued by any Nationalized/Scheduled Indian Bank in favour of ERNET India, New Delhi. The Bank Guarantee shall be valid for 225 days from the original date of bid submission as mentioned in the Tender Document with additional **claim period of 3 months**.
- 15.2 The EMD of all unsuccessful Bidders will be returned within two months from the rejection of their bids or after expiry of the final bid validity, at ERNET India's discretion.

The EMD of the successful Bidder will be returned within 60 days of the signing of the Rate Contract (the validity of the EMD if required will need to be extended accordingly) subject to (i) submission of Bank Guarantee (PBG-RC) and (ii) submission of BG-1 for POs issued during the validity of EMD, as per clause 16 of this section.

- 15.3 If the successful Bidder fails to enter into a rate contract with ERNET India within 15 calendar days (or extended time permitted by ERNET India) by submitting PBG-RC after the date of issue of notice of acceptance of bid and /or fails to submit the Bank Guarantee (i.e. BG-1 as mentioned under clause 16) to ERNET India within one week (or extended time permitted by ERNET India) from the date of issue of PO, the EMD and Bank Guarantees amount shall be forfeited/en-cashed

- 15.4 Any Bid not accompanied with EMD will be considered non-responsive and rejected. The public sector companies will also have to deposit EMD as per **clause 15.1 above**.
- 15.5 No interest or any other expenses, whatsoever in regard to Bank Guarantee (deposited in any form) will be payable by ERNET India on the EMD in any manner.

**16. Bank Guarantees**

16.1 The Bidder, whose Bid is accepted, shall submit the following Bank Guarantees:

- (i) The bidder will submit Bank Guarantee (i.e. PBG-RC) of 2% (Two Percent) of the total equipment value of tender excluding services like AMC, etc for the period of rate contract to adhere its execution as well as other terms and conditions of tender. It will be submitted by the bidder to ERNET India before or at the time of signing of the rate contract.
- (ii) The Bidder will also submit Bank Guarantee (i.e. BG-1) of 8% (Eight Percent) of the total amount/value of the POs (Purchase Orders) issued of all items, valid for one year to ERNET India, extendable to cover warranty period.

This Bank Guarantee will be further extended for the AMC (Maintenance) period (time-to-time) to also cover the AMC (Maintenance) of those items for which AMC purchase orders will be issued by ERNET India. In this case, the amount of Bank Guarantee may vary depending on the number of items for which AMC (Maintenance) POs will be issued on the bidder.

For BG-1, the cost of re-used/existing items (which are not procured from the bidder) of sites shall not be accounted. For BG-1, also the cost of operation and AMC shall not be accounted.

Note: After completion of one year of rate contract (RC) and for purchase orders of total cumulative value up to Rs. 05 (Five) lakh issued during six (06) months time span, submission of BG-1 (i.e. 8% of PO value) is not mandatory. In such cases, 8% payment of PO value will be withheld at the time of release of payment to adhere BG-1. This 8% payment will also be released if bidder submits BG-1 of equivalent amount.

- 16.2 The bank guarantees shall be **deemed to govern the following guarantees** from the successful Bidder, in addition to the other provisions of the guarantee:
- 16.2.1 The successful and satisfactory supply (including installation, integration, commissioning, activation) of items, services, etc on turnkey basis in accordance with all terms and conditions of the tender and Purchase Order and/ or letters issued by ERNET India.
- 16.2.2 Bank Guarantee shall cover the entire obligations of the successful Bidder in regard to this tender and rate contract.
- 16.2.3 In case of any problem, successful bidder will depute his supervisor(s)/engineers to site to resolve problems as per SLA & tender and will remove all defects at Bidder's cost.
- 16.2.4 In case of any violation of any above condition, the bank guarantee is liable to be encashed/ invoked without giving any prior notice to the Bidder. For invocation of BG, consent of the Bidder shall not be taken.

- 16.2.5 The bank guarantee (BG-1) will be returned to the successful Bidder at the end of the warranty and AMC (Maintenance) period without any interest.
- 16.2.6 In case submitted Bank Guarantees need to be extended as per the tender terms and the bidder is unable to extend it for further period, the available bank guarantee with ERNET India will be liable to be en-cashed.
- 16.3 All Bank Guarantees shall be in the form of an irrevocable and unconditional Bank Guarantee on a Nationalized/Scheduled Commercial bank in Indian rupees, as per **Proforma attached at Annexure-V. The claim period of all BGs shall be minimum three months.**
- 16.4 In view of guidelines issued from Ministry of Finance, it is mandatory that all the Bank Guarantees submitted under this tender must be routed through Structured Financial Messaging System (SFMS) from issuing Bank to our Bank by sending IFN 760 COV Bank Guarantee Advice Message. Thereafter only physical Bank Guarantee will be acted upon. Our bank details for this purpose are: -

1	Beneficiary Name & Address	ERNET India Block-I, A-Wing, 5th Floor, DMRC IT Park, Shastri Park, Delhi-110053
2	Bank Name	Bank of India
3	Bank Branch & Address	Electronics Niketan 6 CGO complex , New Delhi – 110003
4	Beneficiary Account No	604810100002033
5	IFSC code	BKID0006048

Note: Performance Security, PBG, BG and Security Deposit wherever used in this tender document has been used interchangeably.

## 17. Acceptance of bid

- 17.1 ERNET India will enter into a Rate Contract with successful Bidder whose financial bid has been accepted as lowest financial bid (L-1) having reasonable price for awarding the work.
- 17.2 The acceptance of the Bid will be intimated to successful Bidder by ERNET India either by the e-mail or fax or letter or like means.
- 17.3 ERNET India shall be the sole judge in the matter of acceptance of work and the decision of ERNET India shall be final and binding.
- 17.4 The Bidder shall complete the awarded work on turnkey basis meeting tender conditions.

## 18. ERNET India's Right to purchase and vary quantities at the time of Award or purchase.

- 18.1 After acceptance of the lowest financial bid (L-1), ERNET India will sign the rate contract with the successful bidder as per tender terms. The cost of all the items as per

the lowest bid shall be indicated in the contract. ERNET India may purchase the items from this rate contract during its validity period subject to the clause 19 of this Section.

- 18.2 ERNET India reserves the right at the time of award of work/purchase order, to increase and/or decrease the quantity of items (goods and services) and/or drop items from the items specified in the Bill of Material (BoM) of tender and Rate contract (which will be signed with L-1 bidder) without any change in price and other terms and conditions of the rate contract. ERNET India has right to purchase any items, services, etc as mentioned in the tender (in part or full) and rate contract, during the validity period of the contract on the terms and conditions of the tender and Bidder will be bound to supply these items, services, etc to ERNET India at the cost quoted in their bid meeting all terms and conditions of the tender and bid. ERNET India shall also have the right not to purchase any items (hardware, software, services, etc) against this tender and bid and rate contract.

**19. Rate Contract period for Supply of VSAT equipments**

- 19.1 ERNET India will sign the Rate Contract with the successful L-1 bidder for the supply (which includes delivery, installation, commissioning, activation, etc) of items (including hardware, software, services, etc) as per the tender.

- 19.2 The Rate contract shall be valid for a period of eight and half (8 ½) years from the date of signing of the contract and the validity of purchase of items from this rate contract will be as below:

- (i) The rates of all items quoted by the bidder shall be valid for a period of two (02) years from the date of signing of contract. This two years period may be extended for a further period of one (01) year through mutual consent. ERNET India may purchase any of the items from the Bill of Material with maximum increase of 25% in its quantity during this period.
- (ii) The rates quoted by the bidder for the services, like operation, AMC, site survey, consultancy, shifting, de-installation, installation, etc shall be valid for eight and half (8 ½) years from the date of signing of this rate contract.
- (iii) The total of warranty and AMC period of items will not exceed eight years during the validity period of this rate contract.

However, on mutual consent, the AMC and Hub Operations services may be extended for one year, by extending the Rate contract validity period.

- (iv) During the warranty and AMC (maintenance) period as mentioned above, any item which will be required to make the link/system/network functional (which may have gone faulty due to damage, burnt, etc and if such damage is not covered in comprehensive AMC) may be purchased by ERNET India through this rate contract.
- 19.3 ERNET India reserves the rights to purchase the items from the rate contract as mentioned above and the Bidder shall be bound to supply the items during the aforesaid period on the same rate and terms & conditions as agreed in the contract.

**20. Standard Conditions**

- 20.1 All prices should be quoted as final. The commercial negotiations may be held after opening of Commercial bid / offer to the extent permitted by CVC guidelines.
- 20.2 The term 'item' or 'goods' or 'equipments' or 'material' used anywhere in this tender shall include hardware, software, firmware and services.

**21. Address for Correspondence**

- 21.1 The Bidder shall authorize one officer along with the official email id and official mailing address to which all correspondence shall be sent by ERNET India.

**22. Liquidated Damages (LD) and Penalties**

- 22.1 The successful bidder shall complete the awarded contract (work) on turnkey basis as per terms and conditions of the tender. If the successful Bidder fails to complete awarded work in time, bidder shall pay to ERNET India without prejudice to any other rights or remedy as may be available to ERNET India, a compensation amount calculated @ 1% of the PO value per week subject to a maximum of 10% of particular PO value. In case of delay in execution and completion of work, ERNET India may consider to cancel the awarded work order at any point of time.
- 22.2 In case of AMC/ maintenance services of VSAT links, the penalties as mentioned in the Service Level Agreement (SLA) at Annexure-VIII shall be applicable.

**23. Force Majeure**

- 23.1 ERNET India may grant an extension of time limit set for the completion of the work in case the timely completion of the work is delayed by force majeure beyond the contractor's control, subject to what is stated in the following sub paragraphs and to the procedures detailed there is being followed. Force majeure is defined an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, tsunami etc.), the direct and indirect consequences of wars (declared or un-declared), national emergencies, civil commotions and strikes (only those which exceed a duration of ten continuous days). The successful Bidder's right to an extension of the time limit for completion of the work in above mentioned cases, is subject to the following procedures:
- a) That within 15 days after the occurrence of a case of force majeure but before the expiry of the stipulated date of completion, the Bidder informs ERNET India in writing that the Bidder considers themselves entitled to an extension of the time limit.
  - b) That the successful Bidder produces evidence of the date of occurrence and the duration of the force majeure in an adequate manner by means of documents drawn up by responsible authorities.
  - c) That the successful Bidder proves that the said conditions have actually been interfered with the carrying out of the contract.



d) That the successful Bidder proves that the delay occurred is not due to his own action or lack of action (like, the bidder applied in a timely and properly manner in the concerned regulatory authorities/ Govt. agencies for their required approvals, the time lags beyond 7 working days from the date of submission of application may not be accounted on part of bidder).

23.2 Apart from the extension of the time limit, force majeure does not entitle the successful Bidder to any relaxation or to any compensation of damage or loss suffered.

## **24. Arbitration and Laws**

In the event of any dispute or disagreement under or in relation to this tender and contract or over the interpretation of any terms hereinabove contained or any claim or liability of the party (which cannot be amicably resolved between the parties), the same shall be settled by arbitration in accordance with the Rules of Domestic Commercial Arbitration of the Indian Council of Arbitration and the award made in pursuance thereof shall be binding on the parties.

The intending party will serve notice in writing upon the other party notifying its intention for appointment of Arbitrator. Should both parties fail to agree on by mutual consent, then the Arbitrator shall be appointed in accordance with Arbitration and Conciliation Act, 1996 as amended from time to time. The provisions of Arbitration and Conciliation Act, 1996 will apply. The arbitration proceedings will be held in New Delhi, India. The Arbitrator will give reasons for his award and the award passed by the Arbitrator shall be final and binding upon the parties herein. Such reference shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications or reenactment there of including the rules framed there under

24.1 This contract shall be governed by the Indian laws.

## **25. Assignment**

25.1 The Bidder shall not assign to others, in whole or in part, its obligation to perform under this contract, except with ERNET India's prior written consent.

## **26. Sub-Contract**

26.1 The Bidder shall notify ERNET India in writing of all sub-contracts awarded under the contract, if not already specified in his bid. Such notification, in his original bid or later, shall not relieve the Bidder from any liability or obligation under the contract.

## **27. Delays in the bidder's Performance**

27.1 Delivery of the goods (items, services, etc) and performance of service shall be made by the bidder in accordance with the time schedule specified by ERNET India in its Time Schedule and as per SLA.

- 27.2 A delay by the bidder in the performance of its delivery obligations shall render the bidder liable to any or all of the following sanctions: forfeiture of its performance security, imposition of liquidated damages, and/or termination of the Contract for default.
- 27.3 If at any time during performance of the Contract, the bidder or its sub-contractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the bidder shall promptly notify ERNET India in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the bidder's notice, ERNET India shall evaluate the situation and may at its discretion extend the Bidder's time for performance.

## **28. Termination for Insolvency**

- 28.1 ERNET India may at any time terminate the Contract and Purchase Orders by giving written notice to the bidder, without compensation to the bidder, if the bidder becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to ERNET India. Under this circumstance, BG will be en-cashed/ forfeited.

## **29. Termination for Convenience**

- 29.1 ERNET India may, by written notice sent to the Bidder, terminate the Purchase Orders, in whole or in part for any item at any time for its convenience. The notice of termination shall specify that termination is for ERNET India's convenience, the extent to which performance of work under the Purchase Order is terminated and the date upon which such termination becomes effective. The notice period in case of termination for convenience shall be 30 days.

In such termination, ERNET India shall make 100% payment for the delivered items as per the Purchase Orders subject to the following:

- The full items should be delivered and installed as per the terms of PO/ rate contract.
- The items (only hardware) which are in transit stage on the date of written notice of ERNET India for the said termination shall be exempted from this clause, subject to that such items shall get delivered, installed and accepted by ERNET India as per the PO and rate contract.

In case of remote VSAT AMCs, ERNET India may terminate the AMC of VSATs (either in whole or in part) at any time without mentioning any conditions and as per the convenience of ERNET India with a notice period of 30 days.

## **30. Termination for Default**

- 30.1 ERNET India may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the bidder, terminate the Contract and Purchase Orders (POs) in whole or in part:

- (a) If the bidder fails to deliver any or all of the goods within the time period specified in the Contract/tender/POs, or any extension thereof granted by ERNET India. OR
- (b) If the bidder fails to perform any other obligation(s) as stipulated in the rate contract/ tender /POs.

30.2 In the event ERNET India terminates the rate contract/POs in whole or in part, pursuant to Clause 30.1, ERNET India may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered, and the bidder shall be liable to compensate ERNET India for any excess costs for such similar goods (it shall be maximum upto POs values). However, the bidder shall continue performance of the Contract/tender/POs to the extent not terminated. The LD will also be applicable.

### **31. Price Fall**

31.1 During the rate contract period, if bidder reduces the sale price of items & services than the price chargeable under the Rate Contract, bidder shall forthwith notify such reduction of sale price to ERNET India and the price payable under the contract for the items and services supplied after the date of coming it into force of such reduction shall stand correspondingly reduced in the rate contract and POs issued subsequently.

### **32. Passing of Property**

32.1 Ownership shall not pass to ERNET India unless and until the system has been delivered, installed, commissioned, operationalized, functional and accepted, in accordance with the terms and conditions of the tender and to the entire satisfaction of ERNET India.

### **33. Domestic Manufacture Clause**

33.1 Preference will be given to Domestically Manufactured Electronic Product in procurement. Guidelines as per Govt. notification No. 8(78)/2010-IPHW dated 10.2.2012, and subsequent amendments/clarifications will be followed for implementation. Bidders must submit an undertaking on notarized Rs. 100/- stamp paper as per **Annexure-XI** mentioning the percentage of domestic value addition (in terms of BOM) for each quoted product under a schedule to avail any applicable preference at the time of placing of purchase orders.

33.2 The above preference will be subject to satisfying eligibility criteria, technical specifications / technically qualified bid and matching the L1 price by the bidder (s), etc.

33.3 Bidders who do not provide the undertaking shall not be considered for receiving this preference.

33.4 The bidder quoting false/ incomplete information will be rejected at any stage (even after awarding of contract) and their any due payments and /or Security Deposits and /or EMD will be forfeited. ERNET India may also initiate legal action as per rules/laws applicable.

**34. Black-listing of bidder**

- 34.1 In case of any serious breach by the bidders pertaining to this tender as well as violation of norms and guidelines of tender procedures of Government of India, ERNET India will have the right to black-list the bidders & firm, as per rules.

**35. Cancellation of the tender**

- 35.1 ERNET India at any time during the tender proceedings /process and without giving any reason shall have full right to terminate and/or cancel the tender. The bidders shall not have any right for any claim on ERNET India in such case. In such case, only the Security Deposits submitted by the bidders (without any interest) will be returned to them within two months from the termination/cancellation of the tender.
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## SECTION – C

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### TENDER REQUIREMENTS AND GENERAL TERMS & CONDITIONS

#### 1. Purpose

1.1 This Tender document includes requirement in respect of description/specification of items and their quantity, delivery, installation, commissioning, integration and maintenance and operations services. The purpose of the tender as detailed in various sections is as below:

- (i) Supply of items to establish new SCPC VSATs;
- (ii) Supply of miscellaneous items to support SCPC VSAT and to ERNET VSAT network;
- (iii) Maintenance of SCPC VSATs and miscellaneous items;
- (iv) Operation of SCPC VSAT Network from VSAT Hub Bangalore;

Supply of items as mentioned above (the list of all items is mentioned in the Bill of Material at Annexure-IV) will include equipment delivery up to the concerned sites, their installation, commissioning, integration and activation of the system/link showing their good functionality for Internet, Intranet access and related applications.

1.2 The overall commissioning and integration of the supplied items as well as their integration with the existing network items into one seamless good functional network so as to meet the performance of the entire network including all VSATs satisfying all technical and functional requirements as per the tender.

1.3 The equipment should meet all the specifications and performance tests as mentioned in the tender.

1.4 The scope of the Tender is covered in **Section - D**.

#### 2 Obligation during Warranty

2.1 All goods or material shall be supplied strictly in accordance with the specifications. The goods/materials supplied and used by the successful Bidder and its workmanship should be of proper quality so as to fulfill in all respects the operating conditions and other requirements specified in the tender.

2.2 If any trouble or defect originating with the design, materials, workmanship or operating characteristic of any materials arise any time during the validity of the warranty period; the Bidder, at his own expense and at no cost to ERNET India, should as promptly as possible make such alterations, repairs and replacements at site as may be necessary for the functioning of the equipment in accordance with the specifications.

- 2.3 ERNET India may at its own discretion remove / replace such defective material at the Bidder's expense, if the Bidder does not act reasonably within maximum of four weeks time, after being informed.

### **3 Inspection**

- 3.1 ERNET India or its representative shall have the right to inspect and test the supplied items to confirm their conformity to the ordered specifications at any time even during first 06 months of its warranty period. The bidder shall provide all reasonable facilities and assistance to the inspection team at no charge to ERNET India at the sites where equipments are installed. The bidder shall also depute their competent persons at the sites for such inspection. In case any inspected or tested goods fail to conform to the specifications, ERNET India may reject them and supplier shall either replace the rejected goods or make all alterations necessary to meet specification required, free of cost to ERNET India.
- 3.2 The expenses on travel, boarding & lodging etc. on ERNET India's or its representative's persons shall be borne by ERNET India.

### **4 PATENTS, SUCCESSFUL BIDDER'S LIABILITY & COMPLIANCE OF REGULATIONS**

- 4.1 Successful Bidder shall protect and fully indemnify the ERNET India from any claims for infringement of patents, copyright, trademark or industrial design rights arising from the use of the Goods or any part thereof.
- 4.2 Successful Bidder shall also protect and fully indemnify the ERNET India from any claims from successful Bidder's workmen/employees, their heirs, dependance, representatives etc or from any other person(s) or bodies/companies etc. for any act of commission or omission while executing the order.
- 4.3 Successful Bidder shall be responsible for compliance with requirements under the laws and shall protect and indemnify completely the ERNET India from any claims/penalties arising out of any infringements. The Bidder shall also be responsible in fulfilling all norms, criteria of Department of Telecommunications, Government of India as well as also bound with the DoT letter no 815-66/2011-DS dated 03.06.2011 including any amendment thereafter.

The Bidder shall also ensure that the items/ goods( items or goods means – all h/w, all s/w, all services, etc) they supply are safe to connect in the network, have been checked thoroughly for risks and vulnerabilities, all addressable vulnerabilities have been addressed, non-addressable vulnerabilities have been listed with remedial measures and precautions provided. The Bidder shall cover all aspects related to security of supplied items, services and cases of breach, particularly the security breaches pertaining to supplied items and services, as per Indian regulations.

### **5 Substitution & Wrong Supplies**

- 5.1 Unauthorized substitution or materials delivered in error of wrong description or quality or supplied in excess quantity or rejected goods shall be returned to the successful Bidder at his own cost and risk.

## **6 Insurance, Freight & Part Supplies**

- 6.1 Arrangements to be made by the bidder to transport equipment by road/air/sea and deliver the same at the **site (the address to be indicated by ERNET India)**.
- 6.2 The supply of goods/items ordered should be fully completed at the user remote site in 1 (one) shipment within the stipulated delivery schedule (in case two or more part shipment is mandatorily required, prior written permission from ERNET India shall be taken by the successful bidder). Partial shipment at the remote site is not allowed unless and until instructed/allowed by ERNET India.
- 6.3 The bidder shall be responsible for all types of loss, damage, etc to the supplied items till the supplied items have not been successfully installed, commissioned, activated and accepted by ERNET India. Thus, the bidder shall have to take care of items by way of their insurance, etc till the acceptance of items or any other way suitable to the bidder.

## **7 Dispatch & Delivery of equipments**

- 7.1 The successful Bidder shall provide /forward **two sets of proof of dispatch and delivery documents** to “The Head, VSAT operations, ERNET India, Ministry of Electronics and Information Technology, Block-I, A-Wing, 5<sup>th</sup> Floor, DMRC IT Park, Shastri Park, Delhi -110 053”, by hand with acknowledgement.

## **8 Installation, Commissioning and Acceptance of the equipment**

- 8.1 All items shall be supplied as per the purchase order. The bidder shall be responsible for installation, commissioning and integration of the supplied equipments with the existing equipments at the Hub, Bangalore and at the remote sites so as to configure the VSAT network for its full functionality and operations.
- 8.2 For the installation of antenna at remote user sites with non-penetrating mount and IFL cable conduiting from antenna to the IDU, the bidder would undertake civil works as part of antenna (except antenna platform work) and IFL cable work order. Any other civil work like power cabling, site preparation etc. for commissioning of the VSAT Network sites shall be the responsibility of the ERNET India. Other civil works, like concrete platform, earthing, etc shall be done as per the purchase orders.

In case remote VSAT site is not ready within 90 days from the PO or site survey report submitted by the bidder at ERNET India (whichever be later) and installation, commissioning of items is pending due to it, than the payment of such items on pro-rata basis will be released on the request of bidder. But, as and when the site become ready, than bidder shall install and commission the items and will make the site/items functional as per the time schedule.

- 8.3 The upgraded remote VSAT, VSAT network System, new VSATs and any other items supplied through this tender should finally conform to the all terms and conditions as mentioned in this tender.

- 8.4 The acceptance test (which can confirm technical specifications as desired by ERNET India), which involves the operation of the complete Goods/items/services, etc integrated with the existing equipments, shall be conducted by the bidder in the presence of authorized representative/team of ERNET India at the equipment supplied location. All expenses for special devices if required, if any, for installation, commissioning and acceptance of the goods/items/services, etc shall be borne by the bidder.
- 8.5 The bidder shall describe in advance the acceptance process, tests and the system on which bidder proposes to demonstrate the correct working of the equipment supplied both individually and as an integrated system. The acceptance process and test will be as per the mutually agreed terms.
- 8.6 The above tests shall demonstrate the satisfactory operation/functionality of all equipment as an integrated VSAT Network covering full range of the functions of the equipment. All simulation equipment shall be provided by the bidder wherever necessary, to simulate all input and output functions on the test configuration. ERNET India shall provide Personal Computer, Local Area Network equipment at HUB and at remote user sites, if required.
- 8.7 To pass the acceptance test, the VSAT, as a complete system, shall operate for fifteen (15) consecutive days, 24 hours a day, at 99.9% up-time efficiency. Up time is defined as productive and error-free time of the HUB equipment and VSAT equipment at remote sites using the Manufacturer's standard test procedures. Any un-utilized time, during the tests, will also qualify as up-time provided there are no hardware malfunctions.
- 8.8 In case the required Performance is not obtained, the equipment will be run for an additional number of days till the efficiency of 99.9% is achieved. This will be evidenced by a certificate of acceptance duly signed and/or counter-signed by representatives of the ERNET India which shall be deemed to be acceptance of the equipment. The bidder shall send such certificate to ERNET India.
- 8.9 The bidder shall conclude the Acceptance test not later than 30 days from the installation of the VSAT Network items in the presence of person(s) or agency designated by ERNET India. The bidder should intimate the date of successful installation of VSAT Network to ERNET India.
- 8.10 If the Acceptance Tests do not conclude as per agreed acceptance test procedure to the satisfaction of ERNET India within the duration specified in the implementation plan, ERNET India shall notify the same to the bidder. The bidder shall replace, at his cost, the whole or any part of the equipment and VSAT Network as may be necessary for conclusion of the acceptance tests to the satisfaction of ERNET India within a further period of sixty (60) days. In this case, LD clause shall be applicable.
- 8.11 Again, if Acceptance Tests do not conclude as per agreed acceptance test procedure to the satisfaction of ERNET India after the expiry of sixty (60) days (as mentioned in above clause 8.10), ERNET India shall have the right to reject the equipment in respect of which the acceptance tests are not satisfactorily concluded and to terminate this contract to the extent it relates to such equipment and in that event ERNET India shall have the right to invoke all the remedies available to them under this Contract. In addition, the bidder shall



also pay to ERNET India, a penalty at the rate of 10% on the entire cost of the equipment supplied as part of this Contract, from the date the payment was made by ERNET India to the bidder till the date of invocation of Bank Guarantee and recovery of amount.

- 8.12 ERNET India shall, however, have the right to reduce the period of 15 consecutive days, 24 hours a day prescribed for acceptance tests.
- 8.13 In case the bidder conducts the acceptance test successfully and notifies the same to ERNET India in writing and ERNET India does not accept or respond otherwise, within 60 days from the day the bidder notifies to ERNET India about successful completion of the acceptance test, the VSAT Network and the equipment would deem to be accepted by ERNET India.
- 8.14 In case ERNET India is satisfied with the supply, installations, commissioning, integration, activation, etc work done by the bidder on the basis of “Installation and commissioning Reports as per Annexure -IX” submitted by the bidder, ERNET India at its option may decide not to conduct above mentioned Acceptance Test Procedure (ATP) to accept the supplied equipments.
- 8.15 Apart from ATP, the bidder shall also meet the following:
- 8.15.1 The Bidder shall be responsible for arranging & maintaining all **test and measuring instruments** required for proper functioning, on-site maintenance and operations work for HC-SCPC VSAT network at his cost. The Bidder will also keep ERNET India informed well in advance for support infrastructure required, if any.
- 8.15.2 During the installation and acceptance of network items, adequate number of engineers (for 24x7x365days support) identified by the Bidder shall be made available at the Hub station to coordinate the installation, commissioning, integration and acceptance of the supplied equipment and VSATs. The engineers deputed at hub will receive and handle the complaints of remote sites and will coordinate to resolve them in stipulated time.
- 8.15.3 The Bidder should specify the infrastructure requirements for the installation of VSATs during site-survey at the site. The site survey work shall include the work to collect and provide all data to obtain WPC, SACFA and operating license for VSATs or its related items. The bidder shall also provide all help to fill up the applications and coordination to get the above mentioned approvals in time. Bidder should submit one copy of site-survey report to ERNET India user and one signed copy to ERNET India HQ.
- 8.15.4 The Bidder shall be responsible for installation and commissioning of all supplied network items at Hub and Remote sites as well as their integration with the existing network items (the details of existing network items are given in the tender). All items (including VSATs) installed should meet the Network Performance (as in Section-F).
- 8.15.5 The installation shall be carried out in conformity with the local fire rules and regulations as applicable.
- 8.15.6 The performance test shall be carried out by the Bidder in the presence of ERNET India or its user or any other person(s) or agency designated by ERNET India at the time of installation and commissioning of VSATs at the user sites.

8.15.7 The VSAT will be accepted after the satisfactory establishment of VSAT link meeting terms and conditions with respect of Purchase Orders. The Bidder has to submit its installation and commissioning report. Format of Installation and commissioning report of VSATs is at **Annexure-IX**.

## **9 Time: The Essence of Contract**

9.1 The bidder shall comply the Time Schedule as mentioned in tender and at Annexure-III.

## **10 Spares**

10.1 The Bidder shall maintain required spares at its various regional offices spread over the country for remote VSATs during the warranty and AMC period to meet Service Level Agreement (SLA).

In case of supply of more than four numbers of HC-SCPC VSATs in the UT of Lakshadweep, ERNET India may direct to the bidder to maintain few spares (i.e. at least one modem, one BUC, one LNB, one feed of same make - model as supplied) at Kavaratti (or as mutually agreed for location) for quick replacement of faulty items for HC-SCPC VSATs located in this UT. ERNET India will also have right to inspect the spares for the UT. The same shall be applicable for the UT of Andaman & Nicobar and bidder has to maintain spares at Port Blair (or as mutually agreed for location).

10.2 All the spares for the equipment under the contract will strictly conform to the specifications, quality and will be identical to the corresponding main equipment/components at the sites and shall be fully interchangeable.

10.3 The successful Bidder shall warrant that all spares supplied will be of same make, model, specifications, working conditions, performance at the sites and in accordance with the contract document and will be free from defects in design, material and workmanship.

10.4 For all items supplied under this tender, the successful Bidder shall guarantee the long-term availability of spares (including sub-items as well as similar new item to replace it) to the ERNET India for minimum 09 years period from the date of publish of this tender. Subject to above, the successful Bidder shall guarantee that before going out of production of spare parts of the equipment covered under the contract, successful Bidder shall give ERNET India at least six (06) months advance notice so that ERNET India (if desired) can purchase those spares/items, if required.

## **11 Payment Terms**

Payment to the supplier shall be made in the following manner:

- (i) **Payment towards on-site comprehensive AMC and operations:** Payment towards services like on-site comprehensive AMC, operations, etc will be released on quarterly basis after completion of each quarter period subject to providing satisfactory services as per the tender terms and conditions and meeting SLA.

- (ii) **Payment towards items other than AMC and operations:** 100% of PO value of equipment, accessories, services, etc ordered and delivered after their acceptance (meeting all tender terms and conditions) shall be released subject to the submission of BGs (BG-1) as mentioned under Clause 16 of Section-B and as per the tender conditions.

On the request of bidder, ERNET India may also consider to release 30% of cost of equipments after delivery of items at ERNET India's site (s) subject to the submission of BG-2 of equivalent amount (i.e. 30% of cost) valid for a period of 3 months (the same shall be extended by the bidder till the successful acceptance of equipments). The bidder shall submit all documents related to delivery of all items as per PO at ERNET India's site (s).

Note: Payment will be subject to TDS and /or GST terms, applicable as per Government norms. The GST terms as at **Annexure-XIII** shall be complied by the bidder.

## **12 Deductions**

- 12.1 Payments, as envisaged in **Clause 11**, shall be subject to deductions of Tax / levy / any amount, for which the Bidder is liable under the agreement against this tender.
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## SECTION – D

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### SCOPE OF THE TENDER

#### 1. Introduction

ERNET India operates a C-band VSAT Network having its VSAT Hub located in the premises of STPI, Bangalore. The RF spectrum being used is on the Normal C-band transponders of GSAT satellite (presently, it is GSAT-18). In brief, the VSAT Network of ERNET India comprises of the following basic components:

At Hub side:

- (i) RF Chain with 9.2 meter antenna, LNAs, HPAs (TWT type), Up /Down converters, Antenna tracking unit, splitters/combiners, etc
- (ii) Baseband of Jupiter with NMS from M/s Hughes Network Systems for providing Jupiter 1300 MF-TDMA type VSATs to the users/sites
- (iii) CDM 760 modems of Comtech and modem redundancy switches for providing “High Capacity SCPC VSATs” at remote sites;
- (iv) CDM 570 modems of Comtech for providing “Normal SCPC VSATs” at remote sites;

Remote SCPC (Single Channel Per Carrier) VSAT sites:

- (v) High Capacity SCPC VSATs using Comtech CDM 760 modems;
- (vi) Normal SCPC VSATs using Comtech CDM 570 modems;
- (vii) MF-TDMA type VSATs using Hughes Jupiter 1300 modems;

#### 2. Scope of the tender

2.1 ERNET India intends to procure the following items and services:

- (i) Items and services required to setup new High Capacity SCPC (Single Channel Per Carrier) VSATs (with and without redundancy);
- (ii) Maintenance of High Capacity SCPC VSATs (both hub & remote side items);
- (iii) Operation of High Capacity SCPC VSAT Network for a period of eight years (generally renewed on annual basis on the basis of performance)
- (iv) Miscellaneous items and services

All procured items, accessories, services, etc should meet all specifications, terms & conditions and performance as specified in tender.

#### 3. General Conditions:

3.1 For Hub side items: The bidder shall deliver, install, commission and integrate (with the existing hub and other network items) all hub side items ordered to them for the full functionality of all network items for providing Internet, Intranet access and its related applications to the remote VSAT sites.

- 3.2 Remote side VSAT items: The bidder shall deliver, install, commission and integrate all remote site items for the full functionality of the VSAT link for providing Internet/Intranet access and its related applications to the remote VSAT users.
  - 3.3 The bidder shall ensure to quote and supply all required items and their installation, commissioning, integration with the existing network items so that the entire network seamlessly offers high level of services and meets the Performance tests and other conditions as specified in the tender for providing connectivity to the remote VSAT sites.
  - 3.4 The Bidder will provide the on-site comprehensive warranty and on-site comprehensive AMC services for the new supplied VSATs as well as on-site comprehensive maintenance of existing HC-SCPC VSATs (without redundancy) with required Performance, SLA and meeting tender conditions.
  - 3.5 The bidder will also provide Hub operations services on 24x7x365 days basis only for the 'High Capacity SCPC VSAT network' and other supplied items by the bidder. The Bill of Material required is mentioned at **Annexure-IV**.
  - 3.6 The operation and maintenance services shall be renewed generally on annual basis at the sole discretion of ERNET India.
-

## SECTION–E

### ----- **QUALIFYING CRITERIA FOR RESPONSIVENESS OF TENDER/BID**

The Bidder must meet all of the following eligibility requirements. The bids of non-compliant Bidder will not be technically or commercially evaluated and reflected.

1. Bidder must have (i) supplied, (ii) installed, (iii) maintained and (iv) operationalized at least 30 SCPC VSATs in the country (Captive network of the Bidder or its holding/ subsidiary company is permissible).
2. Bidder must have (i) supplied, (ii) installed, (iii) maintained and (iv) operationalized at least 02 SCPC VSATs with same Make and Model of satellite modem as quoted against this tender in the country.
3. Bidder must have at least five years of experience in the (i) VSAT Hub operations and (ii) VSAT Hub maintenance having at least 9 Meter VSAT Hub antenna and Network having at least 100 VSATs in the country. Also, the bidder should be engaged in providing these services in last five years continuously at bid submission date. (Captive network of the Bidder or its holding/ subsidiary company is permissible).
4. The Bidders must have a total IT staff of at least 40 technically qualified personnel in providing the managed VSAT services in the last 2 years.
5. The bidder must have at least four support offices (i.e. one located in each of the North, South, West and East region of the country) in the country which directly belongs to them or their holding/ subsidiary company at the time of bid submission date. The number of manpower in these support office must also be mentioned.

In case ERNET India issues a purchase order for establishment of a HC-SCPC VSAT in the UT of A&N Islands, the bidder will also ensure to establish one such office or at least one engineer in the UT of A&N Island which may also belong to bidder's channel partner. The same will also be applicable for the UT of Lakshadweep Island.

6. The Bidder should have prior experience during last three financial years in successful execution of VSAT network implementations of at least 2 projects whose individual value is not less than Rs. 200 lakh.
7. A list of purchasers of High capacity type SCPC VSATs (of the same type which are quoted against this tender) through the Bidder or through its OEM or its channel partners in the last three years along with quantity must be enclosed.

The list must show supply of at least 10 High capacity type VSATs (of the same type which are quoted against this tender) in the last three years with documentary proof in support (mandatory). If this is not provided, the bid stands disqualified.

8. The average annual turnover of the Bidder for the last three financial years should be a minimum of Rs. 100 Crore from Indian Operations (i.e. total of 3 years divided by

- 3).The bidder should be profit making company in at least one of the last three financial years with positive net worth. (For this, the bidder shall also submit a certificate from a Practicing Chartered Accountant on his letter head confirming annual turnover, net profit, net worth and average annual turnover of last three years.).
9. The Bidder may be Indian or Foreign Company (registered in India under Company Act 1956) but must have office and firm arrangement in India to supply, install, commission and provide support, comprehensive on-site maintenance services and operations of the network on turnkey basis. Any Joint venture /Consortium is not permitted to bid, if found, will disqualify for tender process without any prior notice.
  10. The Bidder shall be authorized **DEALER** and shall be in possession of a **DEALER POSSESSION LICENSE** (DPL) and meet norms of DoT for procurement & supply of items as per this tender.
  11. The bidder must provide copy of PAN and GSTIN allotted by concerned authorities.
  12. The bidder must provide a copy of declaration on letter head stating that the bidder is not black-listed on the date of bid submission by any Government Ministry/Department/Organization.
  13. The bidder must comply with the Integrity Pact (IP) as declared by CVC, Government of India as a preliminary qualification and sign the Integrity Pact (IP) as give at **Annexure-XII** of the tender.
  14. Bidders must submit (i) Earnest Money Deposit (**Refer Section B**).

All the above Eligibility Criteria must necessarily be supported by relevant documentation such as Details of VSATs supplied & maintained, authenticated VSATs list, VSAT n/w operating license, Purchase order copies, Annual reports and balance sheet of the last three years , Project sign-off document, Customer reference list along with contact details, List of Purchaser of similar equipments, number of VSATs installed of same equipment as quoted in the tender (along with their list), operation of VSAT Network, maintenance of VSAT Hubs etc. along with the Technical Part of the Bid.

The Bidder should supply, install and support the VSAT network directly. In case of subcontracting required for civil works, services, etc, the Bidder shall be solely responsible for the deliverables from these subcontractors and under no circumstance shall transfer the subcontractor's liabilities to ERNET India.

For holding/ subsidiary company of bidder, the bidder shall submit the certificate from the Practicing Company Secretary or company's own Company Secretary; appointed in compliance with the requirement of companies act.

**NOTES:**

- a) The Bidder should submit Manufacturer's Authorization in the form prescribed in **Annexure-VI**. The list of items for which Manufacturer's Authorization shall be submitted is also mentioned at **Annexure-VI**.

- b) Bidder shall submit the company profile.
  - c) The bidder needs to provide the information of Bidder's Profile in the proforma given at **Annexure-VII**.
  - d) Bidder is duty bound to observe all the Laws, Rules, Regulations, Policies, Procedures and Guidelines of the Government of India as in force from time to time to supply, establish and operate the supplied VSATs and related network items.
  - e) The Articles of Association and Memorandum of Association of the Bidder are to be submitted along with the certificate of incorporation.
  - f) Bidders who do not provide the PMA Affidavit (**as per Annexure-XI**) shall not be considered for receiving this preference (i.e. see Domestic Manufacture Clause of **Section-B**).
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## SECTION – F

# ----- TECHNICAL REQUIREMENTS

### 1. About existing ERNET India VSAT Network

ERNET India operates a C-band VSAT Network having its VSAT Hub and Network Operation Centre (NOC) located in the premises of STPI, Bangalore. The RF spectrum being used is on the Normal C-band transponders of GSAT-18 satellite. The details of existing VSAT Network of ERNET India and its RF chain is given at **Annexure-I**. Presently, all these existing equipments are in operation and in working condition. If any bidder desires to see the existing VSAT Hub located at Bangalore, they may visit during any working day (Monday to Friday excluding holidays) between 3:00 PM to 5:00 PM from **09.07.2018 to 03.08.2018** with written request and approval from ERNET India, New Delhi at the address given at **clause 3.3 of Section-B**.

The existing RF chain Hub equipments as mentioned in **Annexure-I** will be common equipments for MF-TDMA type VSATs, Normal SCPC type VSATs, High Capacity SCPC type VSATs, etc, will also be used by the bidder to provide and setup High Capacity SCPC VSATs as required under this tender.

### 2. Requirement details:

ERNET India desires to purchase and bidder is required to quote for the following items meeting tender terms and conditions:

#### 2.2 Supply of items in respect of High capacity SCPC VSAT links

Its details are given at **Annexure-II-A**.

#### 2.3 Supply of Miscellaneous items

There are few miscellaneous items which are given in the Bill of Material, **Annexure-IV**. Their specifications are given in **Annexure-II-B**.

#### 2.4 Warranty & Maintenance of the Network

The bidder is required to provide warranty and maintenance of the following:

- (a) Warranty and Maintenance of New High Capacity SCPC VSATs supplied by the bidder. (Including its counterpart modem, etc at Hub side).
- (b) Maintenance of Existing High Capacity SCPC VSATs (including its counterpart modem, etc at Hub side).
- (c) Warranty and Maintenance of miscellaneous items supplied by the bidder.

The term and conditions of warranty and maintenance are as given below:

- (i) Warranty will be for the new supplied items and Maintenance (also AMC services) will be for both new supplied items (after expiry of their warranty period) as well as for the few existing Hub and Remote side items as mentioned in the Bill of Material.

Both warranty and maintenance (AMC) will be on-site comprehensive basis. It means bidder shall provide warranty and maintenance at the site locations and will also include all types of repairs and replacement cost of items and links including stocking of required spares.

The AMC shall be awarded on year-to-year basis or even in parts of the year through purchase orders.

The warranty shall be for minimum one year period of all new supplied items from the date of their acceptance by ERNET India. The acceptance criteria are given in **Section-C** of tender.

The total warranty and AMC of items shall be maximum for the period of eight (8) years.

**Note: For few items, the required warranty period is more than one year. For these items, AMC period is mentioned in the Bill of material. In such cases, Warranty and AMC period are specifically mentioned in the equipment specifications / BoM.**

- (ii) The warranty and maintenance services shall include spares inventory, manpower for 24 x 7 x 365 basis, etc. During the warranty and AMC, the performance of the Hub side items as well as remote VSATs should meet all the criteria's of the tender.
- (iii) The Bidder shall accept the AMC of existing HC- SCPC VSATs as-is-where-is basis as mentioned in the Bill of Material.
- (iv) The Bidder shall do the preventive maintenance on regular intervals. Its prior schedule and requirement should be intimated to ERNET India in advance. If Bidder is not having the sufficient capability to do the preventive maintenance of some of the equipments, then it should be carried out with the help of their OEMs or authorized service partners. However, responsibility should be of the Bidder in respect of warranty and maintenance. Its report shall be provided to ERNET India.
- (v) The Bidder has to maintain the required spares at their nearest Regional offices (east, west, north and south) to the sites location to provide the warranty and AMC for the network as per the SLA. In case of failure of any equipment, it should be repaired or replaced immediately meeting SLA.
- (vi) The Bidder would deploy sufficient and competent personnel at VSAT Hub, Bangalore to manage the installation, commissioning and integration of new VSATs with the existing Hub items.

- (vii) After the installation of VSATs, the personnel deployed (competent) by the Bidder at Hub for SCPC VSAT network operations will receive the VSAT related complaints and will coordinate to rectify them as per the SLA to meet the required performance of the VSATs. The Bidder manpower will provide (on daily, weekly and monthly basis) the status of VSAT links, complaints related with VSAT links, follow up action, down time and any other relevant information required by ERNET India officials to run network.
- (viii) The Bidder would deploy competent personnel, preferably from the local region at various critical locations so that the problems can be resolved without any wastage of time.
- (ix) The Bidder shall maintain a system for fault reporting and their management ensuring information flow mechanism as per the requirements of the ERNET India. The system should support lodging of complaint, generating trouble ticket number, track on the complaint, view of complaint status, action taken information, close of complaint after problem and total down time records. The system shall be configurable as per the SLA. This system can be a common system maintained by the bidder in his office for its various users.
- (x) It would be responsibility of the Bidder to arrange and deploy all resources, material, spares, etc. for this purpose including liabilities of the employees/contractors etc.
- (xi) The bidder will sign Service Level Agreement which will be applicable during the rate contract period. The Service Level Agreement is placed at **Annexure-VIII**.
- (xii) The deployed engineers should have experience in the relevant field of handling installation & maintenance of VSATs, knowledge of RF section, networking with Degree/Diploma in Electronics/Computer science/ Information Technology or equivalent.
- (xiii) During warranty and AMC of HC-VSAT links, the bidder shall be required to revise the frequency/carrier plan of VSAT links as and when requested by ERNET India. This can be managed remotely or by doing site visits.
- (xiv) In case Hub Operations services from the bidder is not opted by ERNET India, then the bidder shall provide the contact details (i.e., 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> level with name of person, email, land line number, mobile number, fax number in writing on the letter head to ERNET India) to whom/where ERNET India can lodge the link related complaints in respect of warranty and maintenance services. The downtime of the links will start from the date & time at which the complaint will be lodged at any of the bidder's provided contact details.

## **2.5 Operations of High Capacity SCPC VSAT Network**

- (i) The bidder is required to provide Operations services in respect of High Capacity SCPC VSAT network of ERNET India, meeting the following:

- (a) The bidder shall indicate detailed process for operation of HC-SCPC VSAT network of ERNET India. The HC-SCPC VSAT Network of ERNET India shall consist of the following:
- New supplied SCPC VSATs at ERNET's remote user locations all over the country. It will also include items supplied by bidder at hub side to setup, configure, integrate the VSAT link (like modem, redundancy switch, etc);
  - Existing High Capacity SCPC VSATs (including its counterpart modem, etc at Hub) which will be under maintenance under the bidder;
  - Any other item items supplied by the bidder at Hub side or at Remote user locations;
- (b) The operation will also include management of spares inventory and network performance. As part of the operation, the bidder would establish a fault reporting & management system ensuring proper flow of information. It should support lodging of complaint, generating trouble ticket number, track on the complaint, view of complaint status, action taken information, close of complaint after problem rectification and total down time records. It should be configurable as per the SLA. This system can be a common system maintained by the bidder in his office for its various users. Operation of the Hub shall include network auditing of HC- SCPC VSAT network on half yearly basis, if required by ERNET India.
- (c) It would be the responsibility of the Bidder to arrange and deploy all resources, material, spares, etc. for the operation of the HC-SCPC VSAT network from Hub. The liabilities of the employees/contractors etc. would be of the Bidder. The bidder would ensure quality of service to the users of the HC-SCPC VSAT network and will also ensure network performance.
- (d) The work order for operation of the HC-SCPC VSAT Network will be renewed on yearly basis or part thereof on the performance of the bidder and requirement of ERNET India.
- (e) The manpower deputed at VSAT Hub for the operation of the HC-SCPC VSAT network shall also do other works related to the VSAT network operations as desired by ERNET India.
- (ii) The Operations services shall be quoted by the bidder for the following two levels/types:
- (a) **Type-1: By deputing one engineer at Hub.**  
The deputed engineer will work during General shift from 9 AM to 5 PM and six days a week. However, the engineer can be deputed in any shift as per the requirement of ERNET India.
- (b) **Type-2: 24 x 7 x 365 days basis;**  
The details of 24 x 7 x 365 days basis are as below:
- The Bidder must deploy Engineers and Technical Assistants at VSAT Hub Bangalore so that at least one Engineer should be available from 7:00 AM to 7:00 PM and one Technical Assistant during from 7:00 PM to 7:00 AM. The operation will be for 24x7x365 days basis.

- The deployed engineers should have at least 2 years experience in the relevant field of handling/operation of High Capacity SCPC VSAT links, VSAT hub, RF section and networking with B. Tech or B.E in Electronics/Computer science/ Information Technology or equivalent The engineer should also have experience and should be able to optimize the hub network for best performance and should be able to coordinate with NOCC, DoS and DoT for analyzing/clearing of cross co-pole and spurious signals on the transponder. Technical Assistant should have at least 02 years of experience in the field of handling/Operation of SCPC VSAT links, VSAT Hub with Diploma in electronics / Computer Science / Information Technology or equivalent. The engineer and technical assistant shall have good communication skills in English.

**Note-1:** ERNET India at its option may choose to avail or not to avail ‘Operations services’. In case, above mentioned ‘Operations services’ is not opted/purchased by ERNET India, then any official of ERNET India or its users may avail the warranty and maintenance related services as per SLA by lodging / escalating the item and links related complaints as specified in clause no. 2.4 (xiv) of this section.

Note-2: After issuance of PO of operation services, the bidder shall start these services within time period as given in Time Schedule (refer Annexure-III). In case the operation services are not started within time schedule (refer Annexure-III) by the bidder, then 1<sup>st</sup> year start date of these services shall be taken from the actual date on which these operations services will be started by the bidder. The provision of partial services will not be considered for their acceptance.

**6.0 Other terms:** The bidder is also required to meet all terms and conditions stated below.

### **6.1 Frequency of Operations**

The new supplied VSAT and associated systems shall operate in **C-Band**. The Bidder will do the site survey of the remote location and will do the required link engineering with proper fade margin considering the parameters applicable for the North-East region, Andaman & Nicobar Islands, Lakshadweep Islands, Jammu & Kashmir region, etc.

### **6.2 Operating license and other statutory approvals:**

ERNET India has the Captive VSAT CUG Network license from Department of Telecommunications and also has WPC operating license.

For all the new VSATs and hub side items, the bidder shall arrange necessary License (i.e from DoT, WPC, NOCC, etc) for the delivery, installation and operation of the equipments up to the site.

The bidder shall indicate all necessary approvals required for the establishment and integration of supplied VSAT items with the existing ERNET India VSAT network from the Government bodies (Central and State) such as NOCC (for carrier plan), DoT (for

Frequency allocation, SACFA, WPC Operating license, etc), etc as per the policies in vogue.

The bidder shall coordinate with DoT for the incorporation of new supplied VSAT network technology, VSAT items (including antenna system, modem, BUC, LNB, LNA, etc), etc in the existing VSAT license of ERNET. In case the bidder is unable to do so or same is not permitted by DoT, the supplied network equipments by the bidder to ERNET will be out rightly rejected and no payment shall be liable and also all types of penalties will be applicable within the scope of this tender.

It is also the responsibility of Bidder to get necessary licenses from DoT for supply, installation and operation of the supplied VSATs and related items for the acceptance of the equipments.

The license fee paid to the DoT will be borne by ERNET India.

If ERNET India is required to revise its carrier plan pertaining HC-SCPC VSAT network during the period of contract, the Bidder shall also provide the revised carrier plan and link budgeting as per the requirement for the appropriate approvals from NOCC wing of DOT, etc. The coordination shall be done by the bidder. The bidder will also be responsible to modify the carriers as and when requested by ERNET.

The bidder will also provide all types of consultancy and coordination in regard to licensing work related to ERNET India HC-SCPC VSAT Network so that VSAT Network related licenses should remain in order.

### **6.3 Network Performance for HC-SCPC VSATs**

The bidder would ensure the state-of-the art technology and network design and guarantee fulfillment of the following performance parameters during the warranty and AMC periods:

- Ping between Hub and Remote < 700 milli seconds (under no load condition);
- No packet loss during ping between Hub and remote;
- Configuration and availability of MRTG graphs of all HC-SCPC VSAT links on daily, weekly, monthly and yearly basis on the server at Hub side provided by ERNET India;
- Compliance to Service Level Agreement (SLA) as given at **Annexure-VIII** of this tender;

### **6.4 System Documentation:**

**One** complete set of manuals, technical literature, diagrams etc. shall be provided at no extra cost for supplied Modems, BUC, LNB/LNA and Antenna system with each SCPC VSAT link. It shall include instruction, installation, operations, maintenance, and troubleshooting, etc instructions. The system documentation shall be complete, accurate in respect of the supplied system.

### **6.5 Service Level Agreement (SLA)**

The Bidder will have to sign Service Level Agreement as per details provided in **Annexure-VIII**. The bidder shall meet and provide the items and services meeting all norms & guidelines of DoT (Department of Telecommunications) pertaining to the supplied HC-SCPC VSAT Network and its items in ERNET India.

## **6.6 General terms and conditions:**

Following are the general technical terms and conditions for various units/subunits to be supplied by the bidder for ERNET's VSAT network:

- a. The bidder shall supply proven and latest version of hardware, software and firmware etc. The bidder shall intimate to ERNET India about the new developments related to upgradation and shall provide free software upgradations during the warranty period of one year.
- b. The Bidder will submit detailed On-site Comprehensive Maintenance proposal describing all activities, resources, manpower etc. to ERNET India.
- c. All equipment shall operate with an uninterrupted AC power of 230V  $\pm$  10%, 50Hz. Reliable over voltage and over current protection circuits shall be provided in the power supply units. The power supply shall be self-protecting, and also protect the equipment against interference, noise, voltage dips and surges & impulses.

The Bidder would indicate the requirement of electric load including requirements for air conditioning etc, if required. In case, a specific power supply, including three phase supply is required, the bidder shall provide its details in this tender.

- d. The equipments shall operate without any deviation in quality or degradation of system performance and all the parameters detailed in these specifications shall be guaranteed over the following environmental conditions, if these parameters are not specifically mentioned under the technical specifications of any item:
  - i. Protection against rain, dust, corrosion, possible hazards including EMI (for outdoor equipments).
  - ii. Operating Temperature from '0' degree to 45 degree C for *indoor equipment* & (-) 3 degree to 55 degree C *for outdoor equipment*
  - iii. Relative Humidity = 90% at 40 degree C
- e. The antenna FEED (which will be under warranty or maintenance with the bidder) should be adequately protected keeping in view the rough weather conditions at the remote site. Tx/Rx cables of VSATs shall be properly taped using good quality amalgam tape to seal it from water.
- f. All equipment supplied under this contract shall meet the prescribed standards of the Department of Telecommunication, Govt. of India.

- g. All equipment supplied under this contract shall be in accordance with latest TEC guidelines or Indian regulatory guidelines so that system shall be acceptable to the Indian regulatory bodies.

The equipment shall be as per the latest standards of CCITT, CCIR, IEC, IEEE, IS, CISPR and INTELSAT standards or latest internationally acceptable standards or latest Indian regulatory guidelines including DoT, TEC, etc. The Bidder shall be responsible for obtaining all clearances for the installation, operation and activation of supplied items from all Indian regulatory bodies.

- h. The Bidder will ensure to put the sufficient weight on the supplied Non-Penetrating Mount of the antenna as well as for those antennas which will come under maintenance with the bidder so that alignment of the antenna will not get disturbed by high speed winds within the permissible limits of Antenna specifications. Antenna should not fall by high speed winds. If any damage occurs due to these, then it shall be repaired under AMC/Warranty conditions.
- i. Modem (IDU) of the VSAT shall be mounted such that its connectors should not be damaged due to IFL cable disturbance. For the same, IFL cable should be fixed properly near the modem/IDU. In case connectors get damaged due to disturbance of IFL cable, the bidder shall repair the IDU or if required will replace the IDU to make the link functional.

The bidder shall also ensure the same things for those VSATs which will be upgraded and/or under maintenance under their firm.

- j. The Bidder is required to ensure latest state-of-the art technology and standards and accordingly ensure supply of equipment with the best performance and Quality of Service.

- k. Other conditions:

- All supplied equipment shall operate safely without undue heating, vibration, wear, corrosion, electromagnetic interference or similar problems.
- The system shall be designed for continuous operation (24 hours a day and 365 days a year) and for the full period of rate contract.
- To ensure high reliability, the offered and supplied equipment shall be of field proven design and dependable components. The bidder shall indicate the MTBF and MTTR figure for various equipment, with analysis and indicate overall system reliability and availability figures.
- Safety and protection of personnel during normal operation and maintenance or during malfunctioning of any equipment shall be provided as integrated feature of design, manufacture and installation. Adequate protection shall be included for ensuring safety of personnel from any possible hazards, including EMI radiation, high voltages etc. The bidder



shall furnish the details of EMI and safety standards met by its equipment and safety features built in.

- The supplied equipment shall be on modular basis throughout, using plug-in type components to the maximum practical extent. The parts subject to failure, wear, corrosions or other deterioration or requiring occasional inspection, adjustment or replacement shall be made accessible and capable of convenient removal.
- For system maintenance, and checking health of equipment and link performance, adequate alarms, controls and monitoring facilities shall be provided. In case of fault and degraded performance it shall be possible to identify faulty unit up to card level based on alarm and monitoring facilities provided. The bidder shall describe the local/remote monitoring facilities, status indicators, and visual and/or audible alarms of the various units/sub assemblies/modules.

## **7.0 Training**

1. The bidder shall quote to provide one week training to 2 officers at the manufacturer location (i.e. OEM of HC-SCPC modem) in system design and operation and maintenance of the network. The bidder shall provide training material, documents, etc for this training to the officers. The expenses on travel, boarding & lodging etc. shall be borne by ERNET India. The cost of training shall be quoted in the bid.
  2. The bidder shall also provide free of cost in-house training to 05 technical persons at ERNET India HQ/ Hub site in the system design, technology, features details and the operation and maintenance of the HC-SCPC VSAT network. The required training documents shall be circulated well in advance.
  3. The bidder shall also provide free of cost on-site training of half day (2 to 3 hours) on 'Basics of supplied HC-SCPC VSAT, operations, troubleshooting, etc' to the officials of every remote site during the installation/upgradation of VSAT. The required training material shall also be provided to the site for this purpose.
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**Annexure – I****Details of existing VSAT Network with RF chain items at VSAT Hub, Bangalore:**

1. The location of ERNET VSAT Hub and NOC (Network Operation Centre) is as below:

ERNET VSAT Hub and NOC  
Software Technology Parks of India  
Block III, KSSIDC Complex,  
KEONICS Electronic City,  
Hosur Road, Bangalore – 561229

2. The details of existing Hub side RF chain items are given below.

Sr.	Item Name
i)	Hub Antenna system: C-Band Earth-station antenna – 9.2m – Model No. 920CS TX Gain=53.6dB, RX Gain=50.1dB Make: RSI, Quantity: 01
ii)	LNA system: LNA in 1+1 configuration consists of Redundant C band, 1:1 LNA system with 45 degree K LNAs 1:1 redundant configuration Plate Assembly Make: Vertex RSI, Quantity: 01
iii)	Up Converter system: Up converter in 1+1 configuration consists of C Band Up converter Freq: 5845-6425 MHz-RF, 70+18 MHz, 125 KHz Step Size Make: Radyne Comstream Inc. & Comtech Total number of sets: Three sets
iv)	Down Converter system: Down converter in 1+1 configuration consists of C Band Down converter Freq: 3625-4200 MHz-RF, 70+18 MHz, Make: Radyne Comstream Inc. & Comtech Total number of sets: Three sets
v)	HPA system: High Power Amplifier with Power combiner system (2:1) Make: CPI Model: VZC-6967 AB (700W) – 02Nos (Procured in 2001) Model: VZC 6967AM (750W) – 01 Nos (Procured in 2007) Power Combiner System (2:1) : 01 Nos (Procured in 2007) Frequency 5.85-6.65 GHz With Integral Linearizer
vi)	Antenna tracking system: Antenna Tracking Unit            Make – Radiation Systems

	Beacon Receiver Model 253 (C band) (3.6-4.2 MHz) Spare Portable Maintenance Unit (Without Display) (Vertex RSI) Transducer Assembly (Vertex RSI) Quantity: 01
Note: Apart from these items, splitters, combiners, cables, connectors, etc are also part of Hub side RF items.	

3. The brief of existing DVB-S2 / MF-TDMA ACM CCM based VSAT network is given below.

Sr.	Item description in brief
i)	DVB-S2 / MF TDMA ACM CCM VSAT network based on Jupiter from Hughes Network Systems:
(a)	Jupiter baseband at Hub side comprises of : Outroute subsystem with redundancy Inroute subsystem with redundancy NMS subsystem with redundancy IP gateway subsystem Timing subsystem IF distribution subsystem
(b)	Jupiter based Remote VSAT comprises of : 1.8 meter or 2.4 meter antenna (as per site requirement) Satellite modem - Jupiter HT 1300 BUC 2 / 3/ 5 Watts - NJR (as per site requirement) LNB C-band- NJR IFL cable, connectors, etc.

4. The brief of Normal SCPC VSAT network is given below :

Sr.	Normal SCPC VSAT Item description in brief
(a)	Items at Hub side : Satellite Modem- Comtech based CDM 570A
(b)	Items at Remote side/ site: 2.4 meter / 3.8 meter antenna (as per site requirement) Satellite modem - Comtech based CDM 570AL LNB C-band - NJRC BUC - 5Watts / 10 Watts IFL cable, connectors, etc.

5. The details of High Capacity SCPC VSAT network are given at Annexure-II-A.
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**Annexure-II –A****1. Details of Existing High Capacity SCPC VSAT Systems in ERNET's VSAT network**

- (i) Presently, ERNET's VSAT network has High Capacity (HC) SCPC VSATs in the following two configurations:
- (a) HC-SCPC VSATs with Redundancy configuration;
  - (b) \*HC-SCPC VSATs without Redundancy Configurations;

The details of the items in these two configurations of HC-SCPC VSATs are as tabulated below:

<b>(I) HC-SCPC VSAT (with Redundancy configuration):</b>	
(a)	Items at Hub side :
	Satellite Modem (Comtech CDM 760) (configured in IF-band) - 2Nos
	Redundancy system/ switch for satellite modem (Comtech - CRC) -01 Nos
(b)	Items at Remote side/ site:
	3.8 M Antenna system with Linear Feed (Prodelin 1385)- 01 Nos
	Non Penetrating Mount for 3.8 M Antenna system (Prodelin) - 01 Nos
	SCPC Modem (Comtech CDM 760) (configured in L-band) - 2Nos
	System/ switch for connecting satellite modem in 1:1 hot redundancy (Comtech - CRC) -01 Nos
	LNB (NJR - NJS 8486EN) - 02 Nos
	BUC-125 Watts @P1dB ( Comtech - LPOD) - 2 Nos
	System / switch for connecting LNB & BUC in 1:1 hot redundancy (Comtech)- 01 Nos
	IFL cable set (two sets in manual redundancy)
	Router / Cisco 1941 – 01 Nos (optional)
(c)	Miscellaneous items like connectors, splitters. Combiners, etc. at hub and remote side as per requirement.

<b>(II) *HC-SCPC VSAT (without Redundancy configuration):</b>	
(a)	Items at Hub side :
	Satellite Modem (Comtech CDM 760) (configured in IF-band) - 1 Nos
(b)	Items at Remote side/ site:
	3.8 M Antenna system with Linear Feed (Prodelin 1385)- 01 Nos
	Non Penetrating Mount for 3.8 M Antenna system (Prodelin) - 01 Nos
	SCPC Modem (Comtech CDM 760) (configured in L-band) - 1 Nos
	LNB (NJR - NJS 8486EN) - 01 Nos
	BUC-125 Watts @P1dB ( Comtech - LPOD) - 1 Nos
	IFL cable set
Router / Cisco 1941 - 1 Nos (optional)	
(c)	Miscellaneous items like connectors, splitters. Combiners, etc. at hub and remote side as per requirement.

- (i) The numbers and locations of existing HC-SCPC VSATs are below:

Sr.	Type of HC-SCPC VSAT	Nos	Location (in brief)
1.	With Redundancy configuration	02	PortBlair, UT of A&N Kavaratti, UT of Lakshadweep
2.	*Without Redundancy configuration	03**	UT of Lakshadweep

Note: \* = under process. / \*\* Expected number.

## 2. Basic Requirement in respect of HC-SCPC VSATs:

- (i) ERNET India requires 'New HC-SCPC VSATs with Redundancy configuration' for its various users. The configurations one such HC-SCPC VSAT with Redundancy configuration will be as below:

Sr.	Item name (in brief)	Qty
At Hub side		
1.	Satellite modem (to be configured in IF-band)	02 Nos
2.	System / switch for connecting modem in 1:1 hot redundancy configuration (if not inbuilt/ as part of modem)	01 Nos
At Remote side		
3.	Satellite modem (to be configured in L-band)	02 Nos
4.	System / switch for connecting modem in 1:1 hot redundancy configuration (if not inbuilt/ as part of modem)	01 Nos
5.	LNB	02 Nos
6.	BUC-200 Watts or 125 Watts or 50 Watts or 20 Watts @P1dB	02Nos
7.	System/ switch for connecting BUC (of 200 W/ 125 W/ 50W/ 20 W) and LNB in 1:1 hot redundancy configuration (if not inbuilt/ as part of BUC & LNB)	01 Nos
8.	3.8 M Antenna system with Linear Feed	01 Nos
9.	Non Penetrating Mount for 3.8 M Antenna system	01 Nos
10.	IFL Cable (2x50 meter) with Connectors and conduiting	02 sets
Miscellaneous items		
11.	Site survey, installation, commissioning, integration, activation, etc and good quality surge protector for the establishment of a High Capacity SCPC VSAT link	01

- (ii) ERNET India requires 'New HC- SCPC VSATs without Redundancy configuration' for its various users. The configurations one such HC-SCPC VSAT without Redundancy configuration will be as below:

Sr.	Item name (in brief)	Qty
At Hub side		
1.	Satellite modem (to be configured in IF-band)	01 Nos
At Remote side (L-band)		
2.	Satellite modem (to be configured in L-band)	01 Nos
3.	LNB	01 Nos
4.	BUC-200 Watts or 125 Watts or 50 Watts or 20 Watts @P1dB	02Nos
5.	3.8 M Antenna system with Linear Feed	01 Nos
6.	Non Penetrating Mount for 3.8 M Antenna system	01 Nos

7.	IFL Cable (2x50 meter) with Connectors and conduiting	01 set
Miscellaneous items		
8.	Site survey, installation, commissioning, integration, activation, etc and good quality surge protector for the establishment of a High Capacity SCPC VSAT link	01

(iii) ERNET India also requires AMC / maintenance support of the followings:

Sr.	Item description
1.	New HC-SCPC VSATs having 125Watts or 200 Watts BUCs (with Redundancy configuration)
2.	New HC-SCPC VSATs having 50 Watts or 20 Watts BUCs (with Redundancy configuration)
3.	New HC-SCPC VSATs having 125Watts or 200 Watts BUC (without Redundancy configuration)
4.	New HC-SCPC VSATs having 50 Watts or 20Watts BUC (without Redundancy configuration)
5.	Existing HC-SCPC VSATs having 125Watts BUC (without redundancy configuration)
6.	Any items required in this tender

(iv) The following items may also be supplied as miscellaneous items with HC-SCPC VSAT:

Sr.	Item name (in brief)	Qty
1.	Concrete Platform for the installation of 3.8 meter antenna system at site	: 01 Nos
2.	Earthing (Single Earth Point) at site	: 01 Nos
3.	Earthing (3 Earth Points) at site	: 01 Nos
4.	On line UPS system of 3KVA with batteries	: 01 Nos
5.	On line UPS system of 5KVA with batteries	: 01 Nos

(v) The following miscellaneous items may also be required:

Sr.	Item name (in brief)
1.	Travelling Wave Tube of existing HPA
2.	Laptop at ERNET Hub or ERNET HQ Delhi
3.	Dehydrator at VSAT Hub Bangalore

Note: The quantity required of above items is mentioned in the Bill of Material at **Annexure-IV**.

### 3. General requirements:

- (i) The VSAT Hub / Central site is located at Bangalore. The new VSATs will be located at ERNET India's user locations all over the country.
- (ii) The links will be point-to-point between Hub and user remote location, i.e. in star topology. Generally, the locations of the links shall be in the UT of A&N Islands, UT of Lakshadweep Islands, North-Eastern states and hilly areas of the country. However, links can also be located at any parts of country.

- (iii) All kind of Internet applications including value added applications like Distance learning, Digital library, video conferencing, Internet access etc will run on the link/network. It is expected to connect about 50 LANs, each with 40-60 computers with each high capacity SCPC VSAT link for accessing Internet applications.
- (iv) In case of HC-SCPC VSAT with redundancy, the IFL cable at remote site will be in manual changeable mode, but it should be laid from the antenna to modem. The antenna shall be without redundant configuration. The modems, at both hub and remote sides, shall be in hot redundant configuration. The LNB and BUC at remote shall also be in hot redundant configuration.
- (v) The bidder should supply and integrate all necessary hardware and software for both VSAT Hub and VSAT remotes for full functionality of the links. The cost of all components shall be included by the bidder.
- (vi) Detailed equipment specifications of various sub-systems are given in this Annexure. However, the bidder is required to ensure latest state-of-the-art technology and standards and accordingly ensure supply of equipment/systems with the best performance and Quality of Service.

#### **4. Hub side work i.r.o. VSAT and miscellaneous items**

- (i) It is required to integrate the new supplied High Capacity SCPC VSATs in the existing VSAT network at Hub with the existing MF-TDMA VSAT and SCPC network of ERNET India at RF & IF level.

All cables, connectors, combiners, splitters (active type), etc required at hub to integrate the supplied items for establishing the high capacity SCPC VSAT links, WAN optimizers, etc shall be supplied by the bidder. The cost of all such items shall be included in bid.

- (ii) All equipment at the Hub shall be neatly mounted on a standard 19 inch racks. All the inter-rack & intra-rack cabling shall be done with cable markers. Detailed wiring diagram shall be supplied. The standard 19 inch rack at hub shall be provided by ERNET India to the bidder for this purpose, if bidder is requiring it. However, if bidder may think to supply their rack, they may do so.

#### **5. Remote side work in respect of VSAT and miscellaneous items**

- (i) The bidder is required to supply and install all the items to establish HC-SCPC VSAT and miscellaneous items as required by ERNET India from this tender.
- (ii) The bidder should offer and supply new antenna which shall meet TEC requirements or Indian regulatory guidelines so that it must pass all test, requirements of NOCC, DoT. Depending on site conditions, antenna shall be installed on the rooftop or on the ground with permanent civil foundations along with suitable earthing connections available at the site as per the recommendations of the Antenna Manufacturer and DoT norms.

- (iii) All equipment pertaining to the new SCPC VSAT link including all new supplied items and accessories at the remote VSAT sites shall be neatly installed and mounted at user location for the convenience of location and operation. In case of rack mounted items, all the inter-rack and intra-rack cabling shall be done with cable markers. Detailed wiring diagram shall be provided.
- (iv) Local/remote alarm indication for internal power supply, Tx/Rx chain failure shall be provided at each VSAT terminal for quick fault finding and the maintenance at the site shall involve module level replacement.
- (v) Combiners, splitters (active type), cables, connectors, etc items required to establish and interconnecting the SCPC VSAT link at remote user location with user router/switch shall be included in the scope of supply by the bidders to ensure completeness and interconnection aspects.
- (vi) The HC-SCPC VSAT links shall be configured with minimum 8PSK modulation and minimum FEC 3/4 with GSAT-18 parameters for its Normal C-band frequency spectrum and meeting TEC/IR requirements. The following minimum data rates shall be required:

Sr.	Carrier detail	Minimum Data rate required
1.	Remote Transmit with 125 Watts BUC	15 Mbps
2.	Remote Transmit with 200 Watts BUC	20 Mbps
3.	Remote Transmit with 50 Watts BUC	10 Mbps
4.	Remote Receive	60 Mbps

- (vii) The bidder needs to provide the link budget and summary sheet using GSAT-18 parameters (or as allocated to ERNET India) and meeting TEC/IR requirements as and when requested by ERNET India during the period of Rate Contract. It should pass all tests of NOCC and DoT and Indian regulations. It should meet all requirements (including technical) of the tender. The modulation, coding rates, etc in link engineering, summary sheet, etc must be taken accordingly so that carrier plan and summary sheet must get approved by NOCC, DoT. The bidder shall be liable for all penal actions in case it is not approved by NOCC, DoT.

## 5. Link Design

- (i) The VSAT links shall work with C-Band transponders on GSAT-18. In future, the operation of link may be on other satellite, as allocated by DoS and bidder needs to configure and fine tune the system accordingly.
- (ii) For Link design, remote VSAT antenna size shall be taken as 3.8 meter with Linear Feed and locations of remote sites may be taken as in the UT of A&N and Lakshadweep Islands.

The hub side antenna may be taken as 9.2 meter at Bangalore and HPA of sufficient wattage at Hub. The C-band transponder parameters on GSAT-18 (as per latest TEC/IR document) shall be taken. The modulation, coding rates, fade margin, etc must be taken so that link design must get approved by NOCC, DoT.



In line to above, the bidder shall have to provide the 'Link Budget', 'Link Summary' and 'Frequency plan' in the format as per latest TEC/IR document.

- (iii) The bidder shall provide a detailed link analysis (link engineering) for following cases:

1.	Hub to VSAT : 60 Mbps VSAT to Hub: 15 Mbps RF (BUC): Its size needs to be calculated by the bidder
2.	Hub to VSAT : 60 Mbps RF (BUC): 125 Watts @P1dB VSAT to Hub: The maximum achievable data rate with minimum satellite bandwidth needs to be calculated by the bidder.
3.	Hub to VSAT : 60 Mbps RF (BUC): 200 Watts @P1dB VSAT to Hub: The maximum achievable data rate with minimum satellite bandwidth needs to be calculated by the bidder.
4.	Hub to VSAT : 60 Mbps RF (BUC): 50 Watts @P1dB VSAT to Hub: The maximum achievable data rate with minimum satellite bandwidth needs to be calculated by the bidder.
5.	Hub to VSAT : 60 Mbps RF (BUC): 20 Watts @P1dB VSAT to Hub: The maximum achievable data rate with minimum satellite bandwidth needs to be calculated by the bidder.

The above must be done considering the worst case design, to substantiate the adequacy of the sub systems indicated in the Tender and those offered by the bidder.

**Detailed analysis regarding EIRP required at the Hub and at each VSAT and satellite bandwidth required shall be enclosed in the bid.**

## 6. Other requirements:

Following are the other requirements:

- a) The design and selection of equipment shall be consistent with the requirements of long term trouble free operation with highest degree of reliability and maintainability.
- b) All equipment shall be constructed to operate safely without undue heating, vibration, wear, corrosion, electromagnetic interference or similar problems.
- c) All interconnecting cables required to connect the equipment shall be provided. All cables shall be fully assembled, connector pre-terminated and factory tested as part of overall system checkout.

- d) For system maintenance, checking health of equipment and link performance; alarms, controls and monitoring facilities shall be provided. In case of fault and degraded performance, it shall be possible to identify the fault based on alarm & monitoring facilities provided with it.

**7. The specifications of the sub-systems of high capacity SCPC VSAT items are as below:**

Sr.	Equipment Description with specifications																																																
1.	<table border="1"> <thead> <tr> <th colspan="2" data-bbox="400 539 1501 584"><b>SCPC Modem</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="400 584 475 636">a)</td> <td data-bbox="475 584 1501 636"><b>General Specifications:</b></td> </tr> <tr> <td data-bbox="400 636 475 710"></td> <td data-bbox="475 636 1501 710">Symbol Rate Range      DVB-S2: 100 Ksps to 25 Msps in 1 ksps steps (Upgradable through license up to 72 Msps)</td> </tr> <tr> <td data-bbox="400 710 475 781"></td> <td data-bbox="475 710 1501 781">Modulation Type          DVB-S2 with ACM and CCM Shall support QPSK, 8PSK, 16APSK, 32APSK</td> </tr> <tr> <td data-bbox="400 781 475 813"></td> <td data-bbox="475 781 1501 813">FEC Frame                  Normal or Short</td> </tr> <tr> <td data-bbox="400 813 475 866"></td> <td data-bbox="475 813 1501 866">Alpha (Roll-off)          10% or better</td> </tr> <tr> <td data-bbox="400 866 475 943"></td> <td data-bbox="475 866 1501 943">Management              Front panel keypad with display or 10/100Base-T with SNMP, HTTP</td> </tr> <tr> <td data-bbox="400 943 475 1003"></td> <td data-bbox="475 943 1501 1003">Frequency Stability      Internal, stability <math>\pm 0.06</math> ppm</td> </tr> <tr> <td data-bbox="400 1003 475 1108"></td> <td data-bbox="475 1003 1501 1108">External Reference Input / Output (BNC Female)      Internal, 1, 2, 5 or 10 MHz for IF and data, internally phase locked. Output: off or internal 10 MHz</td> </tr> <tr> <td data-bbox="400 1108 475 1146"></td> <td data-bbox="475 1108 1501 1146">Spectral Sense            Normal and inverted</td> </tr> <tr> <td data-bbox="400 1146 475 1218"></td> <td data-bbox="475 1146 1501 1218">Configuration Retention      Non-volatile memory; Returns upon power up</td> </tr> <tr> <td data-bbox="400 1218 475 1252"></td> <td data-bbox="475 1218 1501 1252">PPS                          Shall support minimum 1 Million PPS in duplex mode.</td> </tr> <tr> <td data-bbox="400 1252 475 1285"></td> <td data-bbox="475 1252 1501 1285">Super Jumbo Frame      Up to 10,240 Bytes support</td> </tr> <tr> <td data-bbox="400 1285 475 1339">b)</td> <td data-bbox="475 1285 1501 1339"><b>Modulator (Dual IF)</b></td> </tr> <tr> <td data-bbox="400 1339 475 1393"></td> <td data-bbox="475 1339 1501 1393">Frequency                  Dual IF 70/140 MHz and L-band (950-2050 MHz)</td> </tr> <tr> <td data-bbox="400 1393 475 1449"></td> <td data-bbox="475 1393 1501 1449">Step Size                  100 Hz for both IF and L-band</td> </tr> <tr> <td data-bbox="400 1449 475 1554"></td> <td data-bbox="475 1449 1501 1554">Impedance / Connector      IF : 75 <math>\Omega</math>, BNC female L-band: 50 <math>\Omega</math>, Type N female.</td> </tr> <tr> <td data-bbox="400 1554 475 1630"></td> <td data-bbox="475 1554 1501 1630">Output Power              IF: 0 to -25 dBm, 0.1 dB steps (70/140 MHz) L-band : 0 to -40 dBm, 0.1 dB steps</td> </tr> <tr> <td data-bbox="400 1630 475 1736"></td> <td data-bbox="475 1630 1501 1736">L-Band Monitor          Same as L-Band or 900 + 70/140 MHz IF at - 27dBm <math>\pm 3</math> dB (or) External coupler shall be used for monitoring of L-band and it shall be the bidder's responsibility.</td> </tr> <tr> <td data-bbox="400 1736 475 1841"></td> <td data-bbox="475 1736 1501 1841">Quadrature Phase Error and Amplitude Imbalance      Sideband 30 dB or better below unmodulated carrier</td> </tr> <tr> <td data-bbox="400 1841 475 1895">c)</td> <td data-bbox="475 1841 1501 1895"><b>Demodulator (Dual IF)</b></td> </tr> <tr> <td data-bbox="400 1895 475 1948"></td> <td data-bbox="475 1895 1501 1948">Frequency                  Dual IF 70/140 MHz (50 to 180 MHz) and L-band (950-2050 MHz)</td> </tr> <tr> <td data-bbox="400 1948 475 2002"></td> <td data-bbox="475 1948 1501 2002">Step Size                  100 Hz for both IF and L-band</td> </tr> <tr> <td data-bbox="400 2002 475 2049"></td> <td data-bbox="475 2002 1501 2049">Impedance /              IF: 75 <math>\Omega</math>, BNC female. Return loss 15 dB min.</td> </tr> </tbody> </table>	<b>SCPC Modem</b>		a)	<b>General Specifications:</b>		Symbol Rate Range      DVB-S2: 100 Ksps to 25 Msps in 1 ksps steps (Upgradable through license up to 72 Msps)		Modulation Type          DVB-S2 with ACM and CCM Shall support QPSK, 8PSK, 16APSK, 32APSK		FEC Frame                  Normal or Short		Alpha (Roll-off)          10% or better		Management              Front panel keypad with display or 10/100Base-T with SNMP, HTTP		Frequency Stability      Internal, stability $\pm 0.06$ ppm		External Reference Input / Output (BNC Female)      Internal, 1, 2, 5 or 10 MHz for IF and data, internally phase locked. Output: off or internal 10 MHz		Spectral Sense            Normal and inverted		Configuration Retention      Non-volatile memory; Returns upon power up		PPS                          Shall support minimum 1 Million PPS in duplex mode.		Super Jumbo Frame      Up to 10,240 Bytes support	b)	<b>Modulator (Dual IF)</b>		Frequency                  Dual IF 70/140 MHz and L-band (950-2050 MHz)		Step Size                  100 Hz for both IF and L-band		Impedance / Connector      IF : 75 $\Omega$ , BNC female L-band: 50 $\Omega$ , Type N female.		Output Power              IF: 0 to -25 dBm, 0.1 dB steps (70/140 MHz) L-band : 0 to -40 dBm, 0.1 dB steps		L-Band Monitor          Same as L-Band or 900 + 70/140 MHz IF at - 27dBm $\pm 3$ dB (or) External coupler shall be used for monitoring of L-band and it shall be the bidder's responsibility.		Quadrature Phase Error and Amplitude Imbalance      Sideband 30 dB or better below unmodulated carrier	c)	<b>Demodulator (Dual IF)</b>		Frequency                  Dual IF 70/140 MHz (50 to 180 MHz) and L-band (950-2050 MHz)		Step Size                  100 Hz for both IF and L-band		Impedance /              IF: 75 $\Omega$ , BNC female. Return loss 15 dB min.
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	Connector	L-band: 50 $\Omega$ , Type N female. Return loss 10 dB min.
d)	<b>Basic Unit Connectors</b>	
	Alarm Connector (DB-15 Male)	Form C: TX, RX and unit faults External TX carrier off
	Unit Management	RJ-45 Ethernet
	TX & RX IF Connectors	BNC female (70/140 MHz) Type-N female (L-Band)
	L-Band Monitor	SMA female (it is optional, but the bidder shall ensure that the items quoted shall have all required connectors for integration and VSAT link commissioning and functioning).
	Data Interfaces	2 x RJ-45 10/100/1000Base-T Ethernet -Shall support both IPv4 and IPv6 for their full functionality.
e)	<b>Environmental and physical</b>	
	Temperature Operating	0 to 50°C
	Temperature Storage	-10 to 70°C
	Humidity	95% maximum, non-condensing
	Power Supply Input	120 to 240 AC, 50 Hz
	Power Consumption	100 W or less, 150 VA typical (for 220 VAC at 50 Hz)
f)	<b>Others</b>	-All cables, connectors, etc for interconnection.  Shall support for 1:1 and 1: N redundancy switching
	<p>Note: The modem may be also supplied meeting the following in respect of dual inputs:</p> <p>The modem shall have option to support both IF and L-band inputs. Out of these two, only one input will be purchased as per the requirement of ERNET India. At remote VSAT site location, L-band modem may be purchased. At Central site hub, either of these (i.e. L-band or IF band) may be purchased as per the requirement of the ERNET India. The VSAT link shall function with any combination between Hub side and remote side modem.</p> <p>Note: For network design purpose, the bidder may assume IF type modem at Hub side.</p>	
<b>2.</b>	<b>1:1 Modem Redundancy Switch for modem</b>	
	General	<p>- 1:1 modem redundancy switch, suitable for the supplied high capacity modem for their functionality in hot redundancy (automatic changeover).</p> <p>- All cables, connectors, splitters, accessories etc required for their integration and installation must be included.</p> <p>Note: At remote site, L-band Redundancy switch along with L-band modem (configured in L-band mode) shall be deployed.</p> <p>At hub side, suitable switch matching the proposed modem shall be supplied ( L-band or IF-band ).</p>
<b>3.</b>	<b>BUC – 125Watts (P1dB)</b>	
	<b>Specifications</b>	

a)	<b>General</b>	It is a single integrated unit with built-in AC power supply.
		The unit has built-in data logging up to 30 events or 30 days for alarms.
		Parameters like Temp, Output power mute status, LNB current etc may be recorded in the computer through commands at regular interval of times for system maintainability or same may be maintained in the BUC itself.
		The unit has a phase noise performance which meets or exceeds IESS-308/309 standard.
		The unit has at least M&C, Ethernet for monitoring
		The unit has SNMP and web interface login for M&C
		In redundancy operation , faulted online unit may be disconnected and replaced without affecting online power amplifier
		The unit has inherent protection against open/short on the Tx output port by means of an inbuilt Output Isolator present inside the unit.
b)	<b>RF features</b>	
	Output Frequency	5850 – 6650 MHz
	Available power Output @ P1 dB	51 dBm ( 125 W)
	Output Connector	CPR137G (or) Type N/Female (or) suitable
	Output Return Loss	19.1 dB/ VSWR : 1.3:1
	Gain Linear	70 dB min
	Adjust	20 dB in 0.5 dB step
	Gain flatness	+/- 1.5 dB full Band or better
	Gain variation over temp -40 to +55 Deg C	+/- 1.5 dB or better
c)	<b>Input</b>	
	Frequency	950 to 1750 MHz
	Noise Figure	8 dB typical
	Input return loss	15 dB
	Connector	N-Type
d)	<b>Phase noise performance</b>	
	Offset at 100 Hz	-70 dBc/Hz
	@ 1 KHz	-80 dBc/Hz
	@ 10 KHz	-90 dBc/Hz
	@ 100 KHz	-100 dBc/Hz
	@ 1 MHz	-105 dBc/Hz
e)	<b>Internal reference</b>	
	Freq	10 MHz over range of -5 to +5 dBm
	Frequency stability	$\pm 2 \times 10^{-9}$ /day or better
f)	<b>Environmental , Power and Physical</b>	
	Operating Temperature	-10 Deg C to +55 Deg C
	Non- Operating	-10 Deg C to +75 Deg C

		Temperature	
		Operating Humidity	0 to 100 % Condensing
	g)	<b>Others</b>	All cables, connectors, etc for interconnection.
<b>4.</b>	<b>BUC – 200Watts (P1dB)</b>		
		Available power Output @ P1 dB	53 dBm ( 200 W)
	<i>Note: Other specifications and parameters will remain same as given above at Sr. 3 for BUC-125 Watts</i>		
<b>5.</b>	<b>BUC – 50Watts (P1dB)</b>		
		Available power Output @ P1 dB	47 dBm ( 50 W)
	<i>Note: Other specifications and parameters will remain same as given above at Sr. 3 for BUC-125 Watts</i>		
<b>6.</b>	<b>BUC – 20Watts (P1dB)</b>		
		Available power Output @ P1 dB	47 dBm ( 50 W)
	<i>Note: Other specifications and parameters will remain same as given above at Sr. 3 for BUC-125 Watts</i>		
<b>7.</b>	<b>LNB</b>		
		RF Frequency	3.4 to 4.2 GHz
		Local Frequency	5.15 GHz
		IF Frequency	950 to 1750 MHz
		Local Stability	Depends on External reference or $\pm 10$ ppm for Internal reference.
		Input Interface	CPR-229 waveguide (with Groove) or suitable
		Noise Temp. (Ta.: +25 C)	30°K max.
		Linear Gain (Ta.: +25 C)	59 dB min., 66 dB max.
		L.O. Phase Noise (SSB)	<-85 dBc/Hz @ 10kHz <-90 dBc/Hz @ 100kHz
		Input VSWR	3.0:1 typ.
		Output VSWR	2.5:1 max.
		Power Requirement	+24 VDC (+12 to +24 VDC)
		Operating Temperature	-10 to +50° C
		Storage Temperature	-10 to +70° C
		Size	Small in size
		Weight	Less than 1Kg
		Other	All cables, connectors, etc for interconnection.
<b>8.</b>	<b>1:1 Redundancy switch for BUC and LNB</b>		
		General	- 1:1 BUC and LNB redundancy switch, suitable for the supplied BUC and LNB for remote site setup  - All cables, connectors, splitters/combiners, mounting kits, accessories etc required for their integration and installation
<b>9.</b>	<b>Dish Antenna – 3.8 Meter</b>		
	a)	Antenna Size	3.8 M, Tx/Rx, C-band with Linear Feed. (however, it should also support circular feed)
		Operating Frequency (GHz)	Receive: 3.625 - 4.20 GHz Transmit : 5.845 - 6.425 GHz

Midband Gain ( +/- 0.2 dBi)	Receive : 42.00 dBi Transmit : 46.50 dBi	
VSWR	Receive: 1.3:1 Max.(<-17.70 dB) Transmit : 1.3:1 Max.(<-17.70 dB)	
Pattern Beam width (in degrees at mid band)	-3 dB	Rx 1.40 deg Tx 0.90 deg
	-15 dB	Rx 3.20 deg Tx 2.00 deg
Side lobe Envelope, Co-Pol (dBi)	$1^{\circ} \leq \theta \leq 20^{\circ}$	29 - 25 Log $\theta$ dBi
	$20^{\circ} < \theta \leq 26.3^{\circ}$	-3.5 dBi
	$26.3^{\circ} < \theta \leq 48^{\circ}$	32 -35 Log $\theta$
	$48^{\circ} < \theta < 180^{\circ}$	$\leq -10$ dBi (averaged)
Note: In receive portion, side lobe envelope specified from 100 $\Lambda$ /D.		
Antenna Noise Temperature	20 <sup>0</sup> Elevation	38 K
	40 <sup>0</sup> Elevation	36 K
Power Handling	1 kW	
Cross Polarization Isolation	On Axis	> 30 dB
	Within 1.0 dB Beam width	> 27 dB
Output Waveguide Interface Flange	Receive	CPR 229
	Transmit	CPR 137 or Type N
b)	<b>Mechanical</b>	
Reflector Material	Glass Fiber Reinforced SMC	
Antenna Optics	Easy-to-assemble, 4 Piece, Offset Fed Prime Focus Design with 0.6 F/D optics.	
Mast Pipe Size	10" SCH 40 Pipe (10.75" OD) 27.3 cm. minimum	
Elevation Adjustment Range	12° to 90°	
Azimuth Adjustment Range	360° Continuous with +/- 35° Fine Adjustment	
Others	Good strength to support heavier radio and ODU items	
c)	<b>Environmental performance &amp; others</b>	
Wind Loading	Operational	80 km/h
	Survival	200 km/h
Temperature Range (operational)	-10° to 60° C	
Rain (operational)	10 mm per hour	
Atmospheric Conditions	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas	
Relative Humidity	0 to 100% Condensing	
Solar Radiation	360 BTU/h/ft <sup>2</sup>	
Others	<ul style="list-style-type: none"> <li>- Its installation, commissioning, integration</li> <li>-All nuts, bolts, cables, connectors, etc to mount and fix it with NPM so that antenna should not disturb/misalign due to high wind speed which is specified in the antenna specs.</li> <li>-The installation shall be as per the standard guidelines of</li> </ul>	

			antenna OEM and DoT.
			-All iron parts of the antenna which requires anti-rust painting shall be done by the bidder each year to avoid rusting of such parts. -All parts of the antenna, rod, nuts, bolts, mast, etc shall be included in the warranty and AMC and bidder has to repair /replace them during warranty/AMC appropriately to the system fully functional. -Supplied with turntable assembly
<b>10.</b>	<b>Non Penetrating Mount (NPM) for the quoted 3.8 meter antenna</b>		
	i)	General	<ul style="list-style-type: none"> <li>- Non Penetrating type Mount compatible with the above mentioned 3.8 meter antenna.</li> <li>- NPM shall be of same make as of 3.8 meter antenna quoted by the bidder.</li> <li>- It should include all nuts, bolts, cables, connectors, concrete blocks, etc to install it and mount/ fix 3.8 meter antenna (as quoted by the bidder) with it so that antenna should not disturb/misalign due to high wind speed which is specified in the antenna specifications.</li> <li>- The installation of mount shall be as per the standard guidelines of antenna OEM and DoT.</li> <li>- Its supply shall include its installation, commissioning, integration at site with the 3.8 meter antenna.</li> <li>- All iron parts which requires anti-rust painting shall be done by the bidder each year to avoid rusting of such parts.</li> <li>- All parts like rod, nuts, bolts, mast, etc shall be included in the warranty and AMC and bidder has to repair /replace them during warranty/AMC appropriately to the system fully functional.</li> </ul>
<b>11.</b>	<b>UPS – 3KVA</b>		
		Rating	On line UPS system of 3KVA
	i)	Input Parameters	
		Technology of Rectifier	Microprocessor controlled True On-line Double conversion PWM Technology, using IGBT as switching devices
		Rated Voltage	220V, single phase
		Voltage range	150V-260V
		I/p Frequency range	47-54Hz
		Power factor	Power factor => 0.80
	ii)	Battery	
		Type	Lead acid maintenance free battery SMF / Sealed Valve Regulated Lead Acid (VRLA) battery, Maintenance free with steel rack for battery housing.
		Charging capability	12 Hours for 80%
		Backup capability	To maintain 9600VAH (minimum) with the combination of 65AH or 75AH or 100 AH of 12 V each
		Battery life/warranty	The life of the batteries shall be minimum 2 years or warranty of batteries shall be minimum 2 years.

	iii)	Output Parameters	
		Power factor	0.8
		Voltage	220V, single
		O/P Voltage THD	<3% for non-linear
		Crest factor	3:1
		Efficiency	>95% full load
		Overload performance (% of rated load)	1 min for 125%
		Bypass	Built-in
	iv)	System parameters , environmental parameters and others	
		System efficiency	>90%
		Noise	<55dB
		Display	LCD/ LED
		Safety	IEC/EN61000-3-11,12 Or equivalent conformance
		Operating Temp	0-40 degree
	Relative humidity	5-95% without condensation	
	Alarm	-Mains Fail -Low Battery Overload Overheat	
	Protection	Input Over/ Under Voltage Overload at the output Battery Short Circuit Over Temperature Protection	
	Quality standard	ISO certification, safety & EMC certification as per IEC standards	
	Isolation transformer	Built-in isolation transformer	
	Display	Status display for load, battery, battery Replace	
	Miscellaneous	- All cables, wires, connectors, mounting kits, accessories etc required for their integration and installation.	
	<b>Warranty (Three Years)</b>	<b>On-site comprehensive warranty of three years</b> from the successful installation and its acceptance.	
<b>12.</b>	<b>UPS – 5KVA</b>		
	Note: All technical specifications and parameters and terms shall be same as of item at Sr. 10. (i.e. UPS – 3KVA), except the followings:		
	Rating	On line UPS system of 5 KVA	
	Battery: Backup capability	To maintain 16000 VAH (minimum) By using batteries of minimum 160 AH of 12 V each.	
<b>13.</b>	<b>Earthing -3 points</b>		
		<ul style="list-style-type: none"> <li>▪ Earthing at remote sites to protect the VSAT equipment from high voltage. E-N voltage less than two volts to be maintained and the Earth should be less than 2 Ohms.</li> <li>▪ Earthing should be Chemical type.</li> <li>▪ Chemical Earthing using Electrode (of size 40 mm dia, 3 meter long, K-type copper pipe) connected with 32X4 mm GI internal strip complete with</li> </ul>	



			<p>excavation, civil works, earth enhancement material (minimum 30Kgs), Inspection chamber (concrete /cast Iron), cast iron cover with back fill compound.</p> <ul style="list-style-type: none"> <li>▪ Copper strip (25mmWx6mmH), multi-strand single core pvc insulated 10 sqmm copper cable, etc shall be used for connections.</li> <li>▪ Three points earthing means three separate earthing pits shall be done nearby (keeping some minimum distance between them as per standard norms) and all shall be jointed all altogether. This joint earthing shall be used to protect the equipments from power fluctuations.</li> <li>▪ All material shall confirm to the relevant Indian standards and shall be of the standard make &amp; design.</li> <li>▪ <b>Three years on-site comprehensive warranty period.</b></li> </ul>
<b>14.</b>	<b>Earthing (single Point)</b>		
	General		<ul style="list-style-type: none"> <li>▪ Earthing at remote sites to protect the VSAT equipment from high voltage. E-N voltage less than two volts to be maintained and the Earth should be less than 2 Ohms.</li> <li>▪ Earthing should be Chemical type.</li> <li>▪ Chemical Earthing using Electrode (of size 40 mm dia, 3 meter long, K-type copper pipe) connected with 32X4 mm GI internal strip complete with excavation, civil works, earth enhancement material (minimum 30Kgs), Inspection chamber (concrete /cast Iron), cast iron cover with back fill compound.</li> <li>▪ Copper strip (25mmWx6mmH), multi-strand single core pvc insulated 10 sqmm copper cable, etc shall be used for connections.</li> <li>▪ This earthing shall be used to protect the equipments from power fluctuations.</li> <li>▪ All material shall confirm to the relevant Indian standards and shall be of the standard make &amp; design.</li> <li>▪ <b>Three years on-site comprehensive warranty period.</b></li> </ul>
<p>The following equipments may also be purchased depending on the requirement. This equipment will be integrated with the high capacity SCPC VSAT link or may be purchased for any other links. Its specifications are as below:</p>			
<b>15.</b>	<b>Router</b>		
	General		<p>Following shall be supported from day one:</p> <p>Supporting two integrated 10/100/1000 Ethernet Ports</p> <p>Two enhanced high speed WAN interface card slots that can host – (i) two cards populated with single WAN port or (ii) one card populated with two WAN ports and second card with one WAN port.</p> <p>-Router should be populated by one card having one WAN</p>

		port initially.
		Protocols: IPv4, IPv6, static routes, OSPF, EIGRP, BGP, BGP Router Reflector, IGMPv3, IPsec, Generic routing encapsulation (GRE), Bidirectional Forwarding Detection (BFD), IPv4-to-IPv6 Multicast, MPLS, Layer 2 Tunneling Protocol, 802.1ag, 802.3ah, and Layer 2 and Layer 3 VPN.
		Encapsulation: Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR), High-Level Data Link Control (HDLC), Serial (RS-232, RS-449, X.21, V.35, and EIA-530), Point-to-Point Protocol over Ethernet (PPPoE), and ATM.
		Traffic management: QoS, Policy-Based Routing (PBR), Performance Routing (PfR), and Network-Based Application Recognition (NBAR).
		Shall support SNMP, Remote Monitoring (RMON), syslog, NetFlow,
		Temperature: -10 to 70°C; Humidity: 5 to 95% RH ;
		RAM Memory: 512MB installed (and upgradable to 1GB) Flash Memory: 256MB installed (and upgradable to 1GB)
		AC Input voltage: 180-240V; AC input frequency : 48 to 52Hz; Rack mountable, power supply, power cable, etc
		Warranty: <b>Three years on-site comprehensive warranty after supply, installation and its acceptance.</b>
<b>16.</b>	<b>IFL cable</b>	
	General	RG-11 or RG 8 IFL cable (suitable with matching impedance), low loss armoured type, with connectors and its proper conduiting using flexible PVC pipe (however, length will vary depending on the site requirement).
<b>17.</b>	<b>Concrete Platform for installing the 3.8 meter antenna</b>	
	General	The minimum Length, Width and Height of concrete platform for mounting antenna shall be minimum of 14 meter, 14 meter and 0.5 meter respectively. However, if bidder requires concrete platform of higher size for mounting / installing 3.8 meter antenna, the bidder shall be required to construct platform of higher size. The life of platform for stable mounting of antenna shall be minimum of 07 years from the date of installation of antenna system. The bidder may do the repair/ maintenance work of platform during this period, if so required.

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**Annexure-II –B****Specifications of miscellaneous items:**

Sr.	Equipment Description with specifications	
1.	<b>Travelling Wave Tube (TWT)</b>	
	General	<p>Travelling Wave Tube compatible with the existing TWTA.</p> <p>The details of existing three numbers of TWTA are given in Annexure-I.</p> <p>The bidder is required to quote the price new TWTs, inclusive of replacement of existing TWT with new supplied TWT, its installation, commissioning and integration in the existing TWTA of ERNET VSAT Hub Bangalore.</p> <p>All cables, connectors, miscellaneous items, etc required to install it shall be inclusive in its cost.</p> <p>Its installation shall be done by authorized engineer of its OEM.</p>
2.	<b>Laptop</b>	
	General	<p>Processor: 8<sup>th</sup> Generation Intel Core i7 processor.</p> <p>Memory: Minimum 8 GB DDR4-2400 SDRAM (1 x 8 GB).</p> <p>HDD: Minimum 1TB.</p> <p>Optical Drive: DVD-Writer.</p> <p>Screen: Minimum 39.62 cm(15.6 inch) diagonal FHD SVA anti-glare WLED-backlit (1920 x 1080);</p> <p>Graphics card with 4GB memory.</p> <p>Audio/Visual: B&amp;O play, Dual speakers, Audio Boost</p> <p>Wi-Fi: 802.11a/b/g/n/ac (2x2).</p> <p>Bluetooth 4.2 Combo.</p> <p>Ports: 1 HDMI 1.4; 1 Headphone/microphone combo; 1 RJ-45 (Ethernet 10/100/1000GbE); 1 USB 3.1 Type-C Gen 1; 2 USB 3.1 Gen 1; Expansion slot: 1 multi-format SD media card reader;</p> <p>Battery backup: Minimum 08 hours.</p> <p>Power supply: Minimum 90 W AC power adaptor for charging.</p> <p>Os: Windows 10</p> <p>Weight less than 2.5 Kg;</p> <p>Laptop backpack bag.</p> <p>Warranty: Minimum 03 years.</p>
3.	<b>Dehydrator at VSAT Hub Bangalore</b>	
	<b>Specifications are as:</b>	
	General requirements	<p>Automatic Air Dehydrator with Ethernet communications</p> <p>Should be compatible with the existing VSAT Hub Set up of ERNET India at Bangalore</p> <p>Provides dry pressurized air to ensure signal quality of antenna waveguide and dielectric coaxial cable.</p>

	Should supply low pressure dry air to keep waveguide and coaxial cable dry.
	Output pressure is field configurable including default setting.
	Brushless dual-diaphragm compressor for long life
	Remote monitoring and control with web interface or SNMP.
	Front panel with display. IP configuration and status monitoring through front panel display. The display should also show output pressure, duty cycle, temperature, compressor hours and air drying canister status.
	Small, light weight and quiet operation (i.e. low noise and low vibration levels)
Regeneration Method	Automatic, demand
Maximum dew point	-40° F/C
Mounting	Rack mounted with all enclosures, nuts, bolts, etc. Should be mounted in rack in maximum 4U space.
Power	100 -240 VAC, 50/60 Hz
Maximum current	1.0 Amps at 100 V
Power usage	Maximum 40W typical, 150 W max
Heat dissipation	Maximum 137 BTU/hr typical @ 40Watt
Output flow rate	Around 25 scfh
Maximum pressure	7.5 psig
Other	Internal safety relief valve and discharge port should be available.
Control Protocols	http (web interface), SNMP, RS 232 interface
Control for Pressure	Maximum pressure configurable range from 0.20 psig to 7.5 psig. Default – 0.50 psig
	Minimum pressure configurable range from 0.10 psig to 7.4 psig. Default – 0.30 psig
Pressure alarm level	Should have low and high pressure alarm level and should be configurable.
Environmental	Operating temperature from 0 to 55 degree centigrade.
Others	Its installation, commissioning and integration in the existing ERNET's VSAT Hub set up should be inclusive. It will include all nuts, bolts, connectors, cables, waveguides, etc. All should be in brand new condition.
Warranty	On-site comprehensive warranty of 03 years from its installation date.

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**Annexure – III****TIME SCHEDULE**

1. The Bidder shall complete the following activities in the below mentioned time frame for the supply, installation, commissioning and integration of all supplied items/services procured through this tender (and/or rate contract signed with successful L-1 bidder) for their full functionality (including VSATs) as per tender terms and conditions at ERNET India's sites:

Sr	Activity	Time frame of completion of activity	Remarks
1	The bidder shall submit the BG-1 to ERNET India as per tender.	One week from the issue of PO	-
2	Delivery of items at Central ware house of bidder located in Delhi.	Five weeks from the issue of PO	
3	Delivery of items from Central ware house of bidder located in Delhi to VSAT Hub, Bangalore (only for items which need to be delivered at Hub Bangalore)  (On request of bidder, ERNET India will provide declarations / challans (as applicable) to the bidder. Any delay in its arranging by ERNET India will not be accounted on Bidder's part)	Two weeks from the handing over of shipment related documents to the bidder by ERNET India.	
4	Delivery of items from Central ware house of bidder located in Delhi to remote VSAT site (only for items which need to be delivered at remote VSAT site).  (ERNET India or its user will arrange shipment related paper i.e. road permits/ declarations/challans (as applicable). Any delay in its arranging by ERNET India will not be accounted on Bidder's part)	Four weeks from the handing over of shipment related documents to the bidder by ERNET India.	-
5	Site-survey of user location and submission of its report to the user and to ERNET India HQ.	Two weeks from the issue of PO	Parallel activity to Sr. 1, 2,3 and 4
6	Preparation of site as per the site-survey report by the site.  (Any delay on account of preparation of site as per site survey report will not be accounted on the part of bidder)	Two weeks after the submission of site-survey report. This time may vary (decrease/increase) from site to site.	Parallel activity to Sr. 2,3 and 4
7	Installation, commissioning, integration and activation of items, VSAT links, etc for their full functionality.	Three weeks from the delivery of equipment at the respective site	-
Total Time on part of bidder: 13 weeks			

Note: The time frame to complete the above mentioned activities may be re-appropriated (among the covered/ involved activities) in case more than one activity is covered/ involved to execute the awarded work. But, the total time to execute the awarded work will remain same.

Note:

- The Bidder should note that they shall inform to ERNET India at least two weeks in advance (in writing) about all the documents required from ERNET India/user sites to establish the VSAT link. Any delay in providing the above information will be accounted on the bidder's part.
- The Bidder should note that they will inform about all the documents required to ship the equipments to ERNET India/ user site locations well in advance to ERNET India in writing, not later than two weeks after the issue of PO. Any delay in providing the above information will be accounted on the Bidder part.
- **Time to take up the Operation of the HC-SCPC VSAT Network:** The Bidder shall depute all resources including manpower, etc required for the Operation of HC-SCPC VSAT Network within four weeks from the issue of communication (in the form of letters, Purchase order, etc) from ERNET India, irrespective of establishment of HC-SCPC VSAT network.
- **Time to take up the Maintenance of the Hub side and remote side equipments (including all hardware, software, etc):** The Bidder shall depute all resources (hardware, software, manpower, etc) required for the on-site comprehensive maintenance of the ordered work within two weeks from the issue of communication (in the form of letters, Purchase Orders, etc) from ERNET India.
- The delay in VSAT installation due to delay in required site readiness by the users will not be accounted on the part of bidder.
- For the sites located in the UT of A & N and in the UT of Lakshadweep islands (except sites in Port Blair, Kavaratti), 02 (two) weeks additional time shall be provided for installation and commissioning of remote VSATs. Also the delays due to non-availability of the ships may be excluded from the delay on part of bidder, however the non-availability of ships shall be informed to ERNET India timely so that if required ERNET India may coordinate with concerned authorities for facilitating the same.
- The permit to visit Lakshadweep and A&N Islands shall be taken by the bidder from the UTs directly. The bidder can also take long term permits. The bidder may also liaison with the local agencies or local persons/ technicians / engineers as per the convenience to visit the Lakshadweep and A&N Islands without requirement of such permits in this regard. However, ERNET India can help and provide documentary support to the bidder or its authorized agencies to visit these two UTs in this regard.
- Initially, the items shall be delivered at Central ware house of bidder located in Delhi and thereafter to the end user locations. However, the bidder can also ship the items directly to the end user locations under intimation to ERNET India.

- In case ERNET India did not inform the end user location in the PO, then bidder shall initially deliver these items at its central ware house at Delhi and shall inform the actual equipment delivery date to ERNET India within one week from delivery of items. However, ERNET India shall have to inform the end user location (s) to the bidder within 06 months from the actual delivery of items at central ware house of bidder. After providing the end user location (s) by ERNET India to the bidder, the items shall be delivered and installed at the sites as per the time schedule activity defined in above table.
  - The bidder can also maintain its central ware house within NCR (in place of Delhi), but ERNET India will arrange the required shipment related papers from its Delhi office.
-

**Bill of Material (BoM) & Pricing Schedule**

Sr.	Item description	Qty	Price Per Unit (in INR)	GST rate (in %)	GST amount per unit (In INR)	Price Per Unit upto the site (In INR)	Total Price (In INR)	Write Yes or No for opting Exchange Rate Variation Clause
(1)	(2)	(3)	(4)	(5)	(6)	(7) = (4) + (6)	(8) = (7) x (3)	(9)
<b>Items required for High Capacity SCPC VSAT link</b>								
1.	Satellite modem- High capacity	100						
2.	System/switch for connecting satellite modem of high capacity in 1:1 hot redundancy	40						
3.	LNB	50						
4.	BUC 200Watts @P1dB or of higher size	15						
5.	BUC 125Watts @P1dB or of higher size	50						
6.	BUC 50Watts @P1dB or of higher size	15						
7.	BUC 20Watts @P1dB or of higher size	15						
8.	System/switch for connecting BUC (of 200 W/ 125W/ 50W / 20W) and LNB in 1:1 hot redundancy	20						
9.	Antenna System– 3.8 meter with Linear Feed	30						
10.	Non-Penetrating mount system for 3.8 meter dish antenna	30						
11.	IFL cable set ( two cables to cover 50 meter distance from antenna to modem)	50						
12.	Site survey, installation, commissioning,	30						



	integration, activation, etc and good quality surge protector for the establishment of a High Capacity SCPC VSAT link						
<b>Miscellaneous items</b>							
13.	Travelling Wave Tube (TWT)	03					
14.	Router	15					
15.	UPS – 3KVA	30					
16.	UPS – 5KVA	30					
17.	Earthing –Single Point	15					
18.	Earthing –Three Points	30					
19.	Concrete Platform for installing the 3.8 meter antenna at user location	30					
20.	Laptop	04					
21.	Dehydrator at VSAT Hub Bangalore	01					
22.	One week training to 2 officers at the manufacturer location (i.e. OEM of HC-SCPC modem)	01					
<b>Maintenance and Operation services</b>							
23.	Operation services for HC-SCPC VSAT Network of ERNET India  Type-1 : By deputing one engineer at Hub	For 1 <sup>st</sup> Year	01				
		For 2 <sup>nd</sup> Year	01				
		For 3 <sup>rd</sup> Year	01				
		For 4 <sup>th</sup> Year	01				
		For 5 <sup>th</sup> Year	01				
		For 6 <sup>th</sup> Year	01				
		For 7 <sup>th</sup> Year	01				
		For 8 <sup>th</sup> Year	01				

24.	Operation services for HC-SCPC VSAT Network of ERNET India  Type-2 : On 24 x 7 x 365 days basis	For 1 <sup>st</sup> Year	01				
		For 2 <sup>nd</sup> Year	01				
		For 3 <sup>rd</sup> Year	01				
		For 4 <sup>th</sup> Year	01				
		For 5 <sup>th</sup> Year	01				
		For 6 <sup>th</sup> Year	01				
		For 7 <sup>th</sup> Year	01				
		For 8 <sup>th</sup> Year	01				
25.	AMC of New HC-SCPC VSAT having 125 Watt or 200 Watt BUCs with Redundancy configuration	For 2 <sup>nd</sup> Year	25 VSATs				
		For 3 <sup>rd</sup> Year					
		For 4 <sup>th</sup> Year					
		For 5 <sup>th</sup> Year					
		For 6 <sup>th</sup> Year					
		For 7 <sup>th</sup> Year					
		For 8 <sup>th</sup> Year					
26.	AMC of New HC-SCPC VSAT having 50 Watt or 20 Watt BUCs with Redundancy configuration	For 2 <sup>nd</sup> Year	14 VSATs				
		For 3 <sup>rd</sup> Year					
		For 4 <sup>th</sup> Year					
		For 5 <sup>th</sup> Year					
		For 6 <sup>th</sup> Year					
		For 7 <sup>th</sup> Year					
		For 8 <sup>th</sup> Year					
27.	AMC of New HC-SCPC VSAT having 125 Watt or 200 Watt BUCs without redundancy configuration	For 2 <sup>nd</sup> Year	30 VSATs				
		For 3 <sup>rd</sup> Year					
		For 4 <sup>th</sup> Year					
		For 5 <sup>th</sup> Year					
		For 6 <sup>th</sup> Year					
		For 7 <sup>th</sup> Year					
		For 8 <sup>th</sup> Year					
28.	AMC of New HC-SCPC	For 2 <sup>nd</sup> Year	20				

	VSAT having 50 Watt or 20 Watt BUCs without redundancy configuration	For 3 <sup>rd</sup> Year	VSATs					
		For 4 <sup>th</sup> Year						
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
		For 7 <sup>th</sup> Year						
		For 8 <sup>th</sup> Year						
29.	AMC of existing High Capacity SCPC VSAT having 125 Watt BUC without redundancy configuration	For 2 <sup>nd</sup> Year	3 VSATs					
		For 3 <sup>rd</sup> Year						
		For 4 <sup>th</sup> Year						
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
		For 7 <sup>th</sup> Year						
	For 8 <sup>th</sup> Year							
30.	AMC of Router	For 4 <sup>th</sup> Year	15					
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
31.	AMC of 3KVA UPS	For 4 <sup>th</sup> Year	30					
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
32.	AMC of 5KVA UPS	For 4 <sup>th</sup> Year	30					
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
33.	AMC of single Point Earthing	For 4 <sup>th</sup> Year	15					
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						
		For 7 <sup>th</sup> Year						
		For 8 <sup>th</sup> Year						
34.	AMC of three points Earthing	For 4 <sup>th</sup> Year	30					
		For 5 <sup>th</sup> Year						
		For 6 <sup>th</sup> Year						

		For 7 <sup>th</sup> Year					
		For 8 <sup>th</sup> Year					
35.	AMC of Dehydrator at VSAT Hub Bangalore	For 4 <sup>th</sup> Year	01				
		For 5 <sup>th</sup> Year					
		For 6 <sup>th</sup> Year					
		For 7 <sup>th</sup> Year					
		For 8 <sup>th</sup> Year					
<b>Other items:</b>							
<b>Note: These items may be procured over the entire period of contract as and when required. The cost of these items shall be included for evaluating L-1. This is to get the best price quote of these items.</b>							
36.	C-band Linear Feed compatible with quoted 3.8 meter antenna system	10					
37.	De-installation and Installation of one 3.8 meter antenna system for its shifting (excluding its transportation)	10					
38.	De-installation and installation of Indoor Unit equipment of one HC-SCPC VSAT for its shifting (excluding its transportation charges)	10					
39.	De-installation and installation of one complete HC-SCPC VSAT system for its shifting (excluding its transportation charges)	10					
40.	Re-configuration work of one HC-SCPC VSAT link due to shifting/ change of satellite [i.e. work pertaining at remote site (like re-alignment of remote side antenna, re-configuration of modem, BUC, etc) and at Hub side (like re-configuration of modem, etc) and coordination work with NOCC, DoT etc] within three weeks from the PO.	30 VSATs					
<b>Grand Total Value (Total Price of all items from Sr. 1 to Sr. 40)</b> <b>(Price up to the site inclusive of all freights, insurances, GSTs)</b>							

**NOTE-1:**

1. **The L-1 (lowest) bid will be evaluated inclusive of all the components as mentioned in above table.**
  2. If any additional items and/or services are required pertaining to HC-SCPC VSAT links for their full functionality, the same may be also indicated in above table (BoM and Pricing Schedule) including their quantity and price. The same will be accounted for commercial evaluation of L-1 (lowest) bid.
  3. 'Price Per Unit up to the site' (as mentioned in column number 8) shall be all inclusive up to the site (i.e. all freights, insurances and GST).
  4. No support charges towards all types of coordination services with various agencies like DoT, DoS, local bodies, etc for license, statutory approval/ clearances etc (as per clause 9.2.6 of Section-B) shall be paid separately. The same shall be made part of unit cost as mentioned in column (8), if required.
  5. The bidder should ensure that 'Item description' and 'Quantity' as mentioned in above table shall be same as per Bill of Material (BoM). There should not be any variation in it.
  6. All prices shall be quoted in the format as above failing which the bid will be out rightly rejected. Conditional Price Bid shall also be rejected.
  7. The Bidder must quote price of each line item of above table. **Bids received without these details are liable to be rejected.**
  8. Grand Total Value (GTV) will be considered for the evaluating financial bid for lowest bid (L-1).
  9. Additional IFL cable, if required at the site and/or as per the site-survey report, will be supplied and installed by the Bidder at the same per meter rate, calculated from the quoted rate.
  10. Only for the shipment of equipment at remote VSAT site/user site, the road permit will be arranged by ERNET India/its user and also the cost of arranging the road permit will be borne by ERNET India/ its user. But, the cost of shipment and all expenses incurred to deliver the items at remote VSAT site /user site will be borne by the bidder.
  11. Write 'Yes' or 'No' for opting Exchange Rate Variation (ERV) clause as stated under **clause number 10.7 of Section-B**, against items from Serial number from 1 to 8 and for item at Serial number 13 and if the item is actually an imported item.
  12. Presently, ERNET India has confirmed requirement to purchase 06 numbers of HC-SCPC VSATs (with 125 watts BUC) without redundancy. It is expected that remaining quantity of 24 numbers (in combination of redundancy or non-redundancy configuration) of HC-SCPC VSATs may also be consumed in next 02 years of contracted period.
  13. GST amount should be rounded off to nearest Rupee value.
-

**Format of Bank Guarantee**

**For BG-RC, BG-1 and BG-2**

(To be stamped in accordance with stamp Act)  
(The non-judicial stamp paper should be in the name of issuing Bank)

B.G. NO. \_\_\_\_\_  
Date of issue \_\_\_\_\_  
Amount (Rs.) \_\_\_\_\_  
Valid upto \_\_\_\_\_  
Claim Amount upto \_\_\_\_\_

To  
ERNET India  
Block-I, A-Wing, 5<sup>th</sup> Floor  
DMRC IT, Shastri Park, Delhi – 110 053

Dear Sirs,

In consideration of the ERNET India, under Ministry Electronics & Information Technology (hereinafter referred as the ‘**Owner**’, which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s. \_\_\_\_\_ (name, constitution and address) (herein referred to as the ‘**Contractor**’, which expression shall unless repugnant to the context of meaning thereof, include its successors, administrator, executors and assigns) a Purchase Order No./ Rate Contract No. \_\_\_\_\_ dated \_\_\_\_\_ valued at \_\_\_\_\_ (hereinafter referred to as Contract) and the Contractor having agreed to provide a Bank Guranatee towards Performance of the entire Contract equivalent to Rs. \_\_\_\_\_ (amount of BG) (i.e. \_\_\_\_\_ per cent of the said value of the Contract) to the Owner.

We \_\_\_\_\_ (name of the Bank) having its Registered Office at \_\_\_\_\_ and Corporate/Head Office at \_\_\_\_\_ (hereinafter referred to as the ‘**Bank**’, which expression shall, unless repugnant to the context or meaning thereof, include the successors, administrators, executors and assigns) do hereby guarantee and undertake to pay at any time up to \_\_\_\_\_ (day/month/year including claim period) an amount not exceeding Rs. \_\_\_\_\_, within ten (10) calendar days from the date of receipt by us on first written demand by Owner; through hand delivery or registered A.D. Post or by speed post or by courier, stating that “Contractor” has failed to perform its obligations under the Contract. Aforesaid payment will be made without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the owner the Bank shall be conclusive and binding notwithstanding any difference between the Owner and Contractor or any dispute pending before any court, tribunal or any authority.

The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the Owner discharges this guarantee. The owner shall have the fullest liberty, without affecting in any way

the liability of the Bank under this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forebear to enforce any covenants, contained or implied, in the Contract between the Owner and the Contractor or any other course of or remedy or security available to the Owner. The Bank shall not be relieved of its obligations under these presents by any exercise by the owner or by any other matters or thing whatsoever which under law would, but for this provision, have the affect of relieving the Bank. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Owner may have in relation to the Contractors liabilities.

This Guarantee can be invoked in one or more trenches and in such a case Owner will not be required to submit the original Guarantee along with submission of claim.

Notwithstanding anything mentioned herein above our liability under this guarantee is restricted to Rs. \_\_\_\_\_ and it shall remain in force up to and including \_\_\_\_\_ shall be extended from time to time for such period as may be desired by the Contractor on whose behalf this guarantee has been issued.

WITNESS

Signature \_\_\_\_\_

Name \_\_\_\_\_

BANK

Signature \_\_\_\_\_

Name \_\_\_\_\_

(Bank's Rubber Stamp)

Seal, name & address of the Bank and address of the Branch

Designation with Bank Stamp

Attorney as per Power of Attorney No. \_\_\_\_\_

Date: \_\_\_\_\_

Place: \_\_\_\_\_

## FOR EMD

-----  
(To be stamped in accordance with stamp Act)  
(The non-judicial stamp paper should be in the name of issuing Bank)

B.G. NO. \_\_\_\_\_  
Date of issue \_\_\_\_\_  
Amount (Rs.) \_\_\_\_\_  
Valid upto \_\_\_\_\_  
Claim Amount upto \_\_\_\_\_

To,

ERNET India  
Block-I, A-Wing, 5<sup>th</sup> Floor  
DMRC IT, Shastri Park, Delhi – 110 053

In consideration of the ERNET India, under Ministry of Electronics & Information Technology (hereinafter referred as the '**Owner**', which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having issued a tender no. \_\_\_\_\_ dated \_\_\_\_\_ and M/s. \_\_\_\_\_ (name, constitution and address) (herein referred to as the '**Bidder**', which expression shall unless repugnant to the context of meaning thereof, include its successors, administrator, executors and assigns) having made a Bid for the above-mentioned tender and the '**Bidder**' have agreed to give Earnest Money Deposit of Rs. \_\_\_\_\_ to abide with the below mentioned condition of the tender :

- (1) If the '**Bidder**' withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of bid.
- (2) If the '**Bidder**' having been notified of the acceptance of his bid by the Owner during the period of its validity:-
  - a) If the '**Bidder**' fails to furnish the Performance Security for the due performance of the contract.
  - b) Fails or refuses to accept/execute the contract.

We \_\_\_\_\_ (name of the Bank) having our Registered Office at \_\_\_\_\_ and Corporate/Head Office at \_\_\_\_\_ (hereinafter referred to as the '**Bank**', which expression shall, unless repugnant to the context or meaning thereof, include the successors, administrators, executors and assigns) do hereby guarantee and undertake to pay at any time up to \_\_\_\_\_ (day/month/year including claim period) an amount of Rs. \_\_\_\_\_; to the Owner, within three (3) working days from the date of receipt by us of your first written demand through hand delivery or registered A.D. Post or by speed post or by courier, stating that "Contractor" has failed to perform its obligations under the Tender. Aforesaid Payment will be made without any demur, reservation, contest, recourse or protest and/or without any reference to the Bidder. Any such demand made by the Owner to the Bank shall be conclusive and binding notwithstanding any difference between the Owner and Bidder or any dispute pending before any court, tribunal or any authority.

The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Owner and further agrees that the guarantee herein contained shall continue to be enforceable till the Owner discharges this guarantee. The owner shall have the fullest liberty, without affecting in any way the liability of the Bank under this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the '**Bidder**', and to exercise the same at any



time in any manner, and either to enforce or to forebear to enforce any covenants, contained or implied, in the Tender between the Owner and the **Bidder** or any other course of or remedy or security available to the Owner. The Bank shall not be relieved of its obligations under these presents by any exercise by the owner or by any other matters or thing whatsoever which under law would, but for this provision, have the affect of relieving the Bank. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the **Bidder** and notwithstanding any security or other guarantee that the Owner may have in relation to the **Bidder's** liabilities.

Notwithstanding anything mentioned herein above our liability under this guarantee is restricted to Rs. \_\_\_\_\_ and it shall remain in force up to and including \_\_\_\_\_ shall be extended from time to time for such period as may be desired by the **Bidder** on whose behalf this guarantee has been issued.

WITNESS

BANK

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Name \_\_\_\_\_  
(Bank's Rubber Stamp)

Seal, name & address of the Bank and address of the Branch

Designation with Bank Stamp

Attorney as per Power of Attorney  
No. \_\_\_\_\_

Date: \_\_\_\_\_

Place:

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**Manufacturer's Authorization Form**

To

ERNET India  
(Under Ministry of Electronics and Information Technology,  
Government of India)  
Block-I, A-Wing, 5<sup>th</sup> Floor  
DMRC IT, Shastri Park, Delhi – 110 053

**Ref: Tender No.** \_\_\_\_\_ **dated** \_\_\_\_\_

Sir,

We \_\_\_\_\_ who are established and reputed manufacturers of \_\_\_\_\_ having factories at \_\_\_\_\_ do hereby authorize M/s. \_\_\_\_\_ (Name and address of bidder) to bid, negotiate and conclude the contract with you against the above referred Tender for the following goods manufactured by us:

- (i)
- (ii)
- (iii)
- (iv)

We hereby extend our full guarantee, warranty, maintenance, AMC for the durations/periods as per clauses of the above referred tender for the above offered goods for supply against this tender for bid by the above bidder.

Yours faithfully,

(Name)  
for and on behalf of M/s.  
(Name of manufacturers)

**Note:**

- a. This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.
- b. The bidder must submit this Manufacturer's Authorization Form at least for the following items:
  - (ii) 3.8 Meter Dish Antenna;
  - (iii) SCPC modems;
  - (iv) BUC -200 Watts, 125 Watts, 50 Watts and 20 Watts;
  - (v) Travelling Wave Tube (TWT);

**Bidder's Profile**

1.	Location of Corporate Headquarters							
	Date and country of Incorporation							
	Number of employees at Corporate HQs (on the rolls of bidder only)							
	The details of other support offices in the country are as below:							
	Sr.	Office Location	Office belongs to bidder	Number of employees in last 2 years (on the rolls of bidder only)		Technically qualified persons engaged in VSAT services in last 2 years		
	1							
	2							
3								
4								
5								
6								
2.	Number of (i) supplied, (ii) installed, (iii) maintained and (iv) operationalized SCPC VSATs in the country.							
	Their details are as below:							
	Sr.	Make/model of SCPC modem	Location of SCPC VSAT	Name of customer	Sr.	Make/model of SCPC modem	Location of SCPC VSAT	Name of customer
	1				17			
	2				18			
	3				19			
	4				20			
	5				21			
	6				22			
	7				23			
	8				24			
	9				25			
	10				26			
	11				27			
	12				28			
	13				29			
	14				30			
15				31				
16				32				
3.	Years of experience in the VSAT Hub operations having at least 9 Meter VSAT Hub antenna and Network having at least 100 VSATs in the country							
	Years of experience in the VSAT Hub maintenance having at least 9 Meter VSAT Hub antenna and Network having at least 100 VSATs in the country							
	Their details are as below:							
	Sr.	Service type	Location of VSAT Hub	Size of Hub antenna	Number of VSATs connected with this Hub		Month & Year from which services are being provided	
(i)	Hub operations							
(ii)	Hub maintenance							
4.	List of purchasers of HC type SCPC modems through Bidder/OEM/ channel partners in the							

	last 03 years along with quantity.				
	Sr.	SCPC modem make & model	Purchaser name	Number of modems purchased	Month & Year of purchase
	1				
	2				
	3				
	4				
5.	Name of at least 02 projects of value equal to or more than Rs. 200 lakh pertaining to VSAT network and executed by the bidder during last 03 financial years				
	Sr.	Detail of Project	Amount of Project	Month & Year of project execution	
	1				
	2				
6.	Average of annual turnover in last 03 financial years from Indian Operations (i.e. total of 3 years divided by 3).				
	Sr.	Year	Annual Turnover (from Indian operations)	Net worth	
	1	Year 2017-18			
	2	Year 2016-17			
	3	Year 2015-16			
7.	The details that the bidder is authorized <b>DEALER</b> and is in possession of a <b>DEALER POSSESSION LICENSE (DPL)</b> and meet norms of DoT for procurement and supply of items as per this tender.				
	The details are as below:				
8.	GSTIN : (GSTIN Registration Certificate enclosed.)				
	PAN: (Certificate enclosed)				
	TIN: (Certificate enclosed)				
9	Declaration on the letter head stating that the bidder is non black-listed on the due date of bid submission by any Government Ministry/Department/Organisation				
10	Signed copy of the Integrity Pact (IP) as give at <b>Annexure-XII</b> of the tender by the bidder.				
10.1	Bidder must submit: Earnest Money Deposit (EMD)				
11.1	The bidder must submit Manufacturer's Authorization Certificate, as per Annexure-VI				
12.1	The bidder must submit Article of Association and Memorandum of Association along with the Certificate of Incorporation.				
13	PMA Affidavit (if its preference is required).				

NOTE: All the above things must necessarily be supported by relevant documentation.

**SERVICE LEVEL AGREEMENT**

Terms of the Service Level Agreement would be as under:

**1.0 For High capacity SCPC VSAT links**

The bidder should ensure the followings:

- (i) HC- SCPC VSAT link (with redundancy configuration) availability should be equal to or greater than 99% (averaged on yearly basis). The redundant items can be used by the bidder for link availability;
- (ii) HC-SCPC VSAT link (without redundancy configuration) availability should be equal to or greater than 98.5% (averaged on yearly basis)
- (iii) Maximum Time To Repair/Replace (MTTR) the faulty/non-functional items of HC - SCPC VSAT link (at Hub side) = 24 hours from the time of reporting of fault.
- (iv) Maximum Time To Repair/Replace (MTTR) the faulty/non-functional items of HC - SCPC VSAT link (at Remote site) = 72 hours from the time of reporting of fault.

In case, the bidder is unable to meet any of the above conditions, the bidder shall pay penalty of Rs. 50,000/- per day. Penalties whichever shall be at the higher side shall be imposed.

Note:

- (i) The permit to visit Lakshadweep and A&N Islands shall be taken by the bidder from the UTs directly. The bidder can also take long term permits. The bidder may also liaison with the local agencies or local persons/ technicians / engineers as per the convenience to visit the Lakshadweep and A&N Islands without requirement of such permits in this regard. However, ERNET India can help and provide documentary support to the bidder or its authorized agencies to visit these two UTs in this regard.
- (ii) To maintain required uptime/ link functionality, the bidder can maintain required spares at VSAT Hub Bangalore and at sites.
- (iii) For sites located in NE states (except their capitals), the HC-SCPC VSAT link availability will be equal to greater than 98% and MTTR the faulty/ non-functional items of HC-SCPC VSAT link at remote site shall be of 96 hours.
- (iv) The Downtime starts from the time, the complaint is logged at VSAT Hub Bangalore. Any delay in logging the complaint by user/ERNET India shall be excluded from the downtime calculations.

Remarks:

For the purpose of the above clause, non-availability /degradation in the throughput of service on account of the following shall not be construed as defect or interruption in 'Remote VSAT availability':

- a) Failure or fluctuation of electric power.
- b) Accident, neglect of the equipment.
- c) Any fault in any attachments or associated equipment, which is not under warranty / maintenance with the Bidder.
- d) Downtime caused due to optimization and preventive maintenance of VSAT Hub.
- e) Event of Force Majeure conditions like natural calamities, civil disturbance, strike, war, flood etc as described in Contract.
- f) Non-Availability / degradation of satellite / Transponder.

NOTE: The value of penalties during one year due to non-compliance of Service Level Agreement (SLA) can go upto the total value of Work Awarded to the bidder for the services (like AMC, Operations, etc) for that one year period plus Bank Guarantees available with ERNET India under this tender/rate contract.

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**Format of “Installation/Commissioning/etc Report of HC-SCPC VSAT, etc”**

This is to certify that the following HC-SCPC VSAT equipments have been received, installed, commissioned satisfactorily at our site on date ..... with Remote Rx = ..... kbps and Remote Tx = ..... kbps data rates.

I) List of Equipments:

Sr.	Name of equipment	Make and model	Serial number	Quantity
1.	Antenna-3.8 meter			
2.	NPM of 3.8M antenna			
3.	HC-SCPC modem			
4.	Modem Switch for 1:1 redundancy			
5.	LNB			
6.	BUC			
7.	LNB & BUC Switch for 1:1 redundancy			
8.	IFL cable			
9.	Router			
10.	UPS			
11.	Earthing			
12.	Concrete Platform			

(II) The following shown to us during the installation/commissioning of VSAT link:

- Allocated data rate (by doing FTP from ERNET Hub):  
Remote Rx: .....Kbps;  
Remote Tx: .....Kbps.
- Satisfactory Internet browsing on few PCs.
- Ping between Hub and Remote: ..... millisecond.

Above is certified.

(Name and Signature of user)

Stamp of the institute/ Organization

Date: .....

Note: The above format may be modified by ERNET India, as per the requirement and tender terms. The items not ordered by ERNET India shall be excluded from the above list.

**Location of existing HC-SCPC VSAT sites of ERNET India:**

Sr. No	State / Region	Numbers
Existing HC-SCPC VSAT with redundancy configuration		
1.	Andaman & Nicobar Island (U.T)	01
2.	Lakshadweep Islands (U.T)	01
Expected HC-SCPC VSAT without redundancy configuration		
3.	Lakshadweep Islands (U.T)	03*

\*Under process / planning.



**Preferential Market Access (PMA) Affidavit**

Format for affidavit of self certification regarding domestic value addition in an electronic product, to be provided on Rs. 100/- stamp paper

Date: .....

We ..... a firm/Pvt. Ltd. Co.....  
, having registered office at .....  
do hereby solemnly affirm and declare as under:

That we will agree to abide by the terms and conditions of the policy of Government of India issued via notification no. 8(78)/2010-IPHW dated 10-02-2012, and the subsequent revision to the policy issued via notification no. 33(3)/2013-IPHW dated 23-12-2013.

That the information furnished hereinafter is correct to the best of our knowledge and belief and I undertake to produce relevant records before the ERNET India or any authority so nominated by the Department of Electronics and Information Technology, Government of India, for the purpose of assessing the Domestic Value Addition.

That the domestic value addition for all inputs which constitute the said electronic product has been verified by us and we are responsible for the correctness of the claims made therein.

That in the event of the domestic value addition of the product mentioned herein is found to be incorrect and not meeting the prescribed value addition norms, based on the assessment of an authority so nominated by the ERNET India or Department of Electronics Information Technology, Government of India for the purpose of assessing the domestic value addition, we will be disqualified from any Government tender for a period of 36 months. In addition, we will bear all costs of such an assessment.

That we have complied with all conditions referred to in the notification no. ...., wherein preference to domestically manufactured electronic products in government procurement is provided and that the procuring authority is hereby authorized to forfeit and adjust our EMD and other security amount towards such assessment cost and we undertake to pay the balance, if any, forthwith.

We agree to maintain the following information in the record for a period of 8 years and shall make this available for verification to any statutory authorities:

- i.** Name and details of the domestic manufacturer (Registered office, manufacturing unit location, nature of legal entity)
- ii.** Date on which this certificate is issued
- iii.** Electronic product for which the certificate has been produced
- iv.** Procuring agency to whom the certificate is furnished
- v.** Percentage of domestic value addition claimed
- vi.** Name and contact details of the unit of the manufacturer
- vii.** Sale price of the product
- viii.** Ex-factory price of the product
- ix.** Freight, insurance and handling
- x.** Total bill of material
- xi.** List and total cost value of inputs used for manufacture of the electronic product.
- xii.** List and total cost of inputs which are domestically sourced. Please attach certificate from suppliers if the input is not in-house.
- xiii.** List and cost of inputs which are imported, directly or indirectly.

For and on behalf of ..... (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

-----

ERNET India hereinafter referred to as "The Principal".

And

-----[bidder (s) participating in this tender] hereinafter referred to as “The Bidder/Contractor”

**Preamble**

The Principal intends to award, under laid down organizational procedures, contract/s for all the items (all H/w, S/w, services, etc) of this tender. The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and /or Contractor(s).

In order to achieve these goals, the Principal will appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for Compliance with the principles mentioned above.

**Section 1- Commitments of the Principal**

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
  - a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - b. The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder (s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the process or the contract execution.
  - c. The Principal will exclude from the process all known prejudiced persons.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

**Section 2- Commitments of the Bidder(s) / Contractor(s)**

1. The Bidder(s) / Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- a. The Bidder(s) / contractor(s) will not, directly or through any other persons or firm, offer promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage or during the execution of the contract.
  - b. The Bidder(s) / Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
  - c. The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s) / Contractors will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s) / Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" as annexed and marked as Annexure.
  - e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3: Disqualification from tender process and exclusion from future contracts**

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the Government/ERNET India's procedure on banning of the business dealings/bidders/contractors, etc.

### **Section 4: Compensation for Damages**

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

2. If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminated the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value and/or the amount equivalent to Performance Bank Guarantee.

#### **Section 5: Previous Transgression**

1. The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti corruption approach or with any other public sector enterprise in India that could justify his exclusion from the tender process.
2. If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process for action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

#### **Section 6: Equal treatment of all Bidders/Contractors/Subcontractors**

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all bidders, contractors and subcontractors.
3. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

#### **Section 7: Criminal charges against violation Bidder(s)/ Contractor(s)/Sub contractor(s)**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

#### **Section 8: Independent External Monitor/Monitors**

- (1) The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- (2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Director General, ERNET.
- (3) The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors.

The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality.

- (4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- (5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- (6) The Monitor will submit a written report to the Director General, ERNET within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- (7) Monitor shall be entitle to compensation on the same terms as being extended to / provided to Director level in the ERNET India or as decided by Director General of ERNET India.
- (8) If the Monitor has reported to the Director General ERNET , a substantiated suspicion of an offence under relevant IPC/PC Act, and the Director General ERNET has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
- (9) The word 'Monitor' would include both singular and plural.

### **Section 9 - Pact Duration**

This pact begins when both parties have legally signed it. It expires for the Contractor 10 months after the last payment under the contract or after 10 months from the expiry of Rate Contract (RC) which ever be later and for all other Bidders 12 months from the contract has been awarded.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Director General of ERNET.

### **Section 10 - Other provisions**

- This agreement is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the principal, i.e. New Delhi.
- Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

- If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(For & on behalf of the Principal)		(For & on behalf of Bidder/Contractor)
(Office Seal)		(Office Seal)
Place-----		
Date-----		

(Office Seal)

(Office Seal)

Place-----

Date-----

Witness 1:

(Name & Address)

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

Witness 2:

(Name & Address)

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

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**GST Terms:**

1. The bidder should be registered under Goods and Service Tax (GST) and compliant of GST provisions. The bidder is required to submit the GST Registration Certificate clearly stating the GSTIN and category of registration of the firm, in case of registration as composite dealer same may also be mentioned very clearly, along with all necessary documentary proofs substantiating the category of registration.

In case of unregistered bidder, the bidder needs to submit a certificate, certifying that they are not registered under GST regime and they will immediately intimate ERNET India, in case they obtain registration at a later date.

2. In case of non-compliance by the bidder of the GST provisions which results in blockage/reversal of any input tax credit to ERNET India, the firm shall be liable to indemnify the ERNET India for any such loss of input credit including interest, penalty and all incidental expenses incurred by ERNET India. Such indemnification may also be by way of invocation of any security deposit, deduction from any payment that ERNET India has to make to the firm, as per the discretion of the ERNET India.
  3. In case, in future any GST liability is required to be borne by ERNET India; which was the responsibility of the bidder, then the same shall be claimed from the bidder by way of raising debit notes.
  4. ERNET India reserves the right to review the bidder's documents to ensure that the bidder is GST compliant and in such a case the bidder will provide all such documents as may be required by ERNET India.
  5. ERNET India will not bear any additional tax burden due to change in tax rate for delay on account of delivery, installation and commissioning by the bidder.
  6. If the bidder fails to adhere the terms & conditions of the tender and/or Purchase Order and ERNET deducts Liquidated Damages for the delay, under GST regime ERNET India has to discharge GST liability on LD recovered from the firm. Hence, GST shall also be recoverable from the bidder on LD amount.
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