

**GOVERNMENT OF INDIA**  
**MINISTRY OF SKILL DEVELOPMENT AND ENTREPRENEURSHIP (MSDE)**

**National Instructional Media Institute (NIMI)**  
**Chennai**

**“e-Procurement”**  
**NATIONAL COMPETITIVE BIDDING FOR**  
**Supply, Installation, Commissioning, Operation and**  
**Maintenance of Hub, SIT and ROT for Satellite Based**  
**Distance Learning Programme under MSDE**

**Bid Reference No. NIMI/MS/C-211101/Media/2017**  
**Date: 30.06.2017**

**Purchaser: The Executive Director,**  
**National Instructional Media Institute (NIMI)**  
**Post Box No. 3142, CTI Campus**  
**Guindy Industrial Estate, Guindy**  
**Chennai-600032**

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**NATIONAL COMPETITIVE BIDDING FOR**

**Hiring of Contractor for Supply, Installation, Commissioning, Operation and Maintenance of Hub, SIT and ROT for Satellite Based Distance Learning Programme under e-Procurement System**

Bid Reference: NIMI/MS/C-211101/Media/2017

Date and time of commencement of downloading of bid document : 04-07-2017..At 11-00 AM onwards

Last date and time for seeking clarification, if any : 20-07-2017..Upto 5-00 PM

Pre-bid meeting (**At New Delhi**) : 18-07-2017..At 11-30 AM

Last date and time for downloading of bid document from e-procure platform [www.eprocure.gov.in](http://www.eprocure.gov.in) : 07-08-2017 Upto 3-00 PM

Last date and time for submission/ uploading of bid in e-procure platform : 07-08-2017.Upto 5-00 PM

Time and date of opening of bids (Technical Bid) : 08-08-2017..At 11-00 AM

Time and Date for opening Financial Bid : 04-09-2017..At 11-00AM

Place for opening of bids and address for communication : National Instructional Media Institute, P.Box.No.3142, CTI Campus, Guindy Industrial Estate, Chennai-600032

Note:

- 1) In the event of the specified date of opening of bids being declared a holiday for the Purchaser, the bids shall be opened on the next working day at the same time and venue.
- (2) Completed bids shall be uploaded on the e-procurement platform by the Bidders using their user ID and addressed to the Executive Director NIMI in the manner described under Instructions to Bidders Section II of Bid Documents on or before the stipulated last date & time.

## List of Abbreviations

AMC-	Annual Maintenance Contract
ATI-	Advanced Training Institute
ATP-	Acceptance Test Plan
AUPC-	Automatic Uplink Power Control
BDS –	Bid Data Sheet
BUC-	Block Up Converter
CAMC-	Comprehensive Annual Maintenance Contract
CFI-	Centrally Financed Institute
DR-	Design Review
DTH-	Direct-to-Home
DVB-	Digital Video Broadcast
GCC-	General Conditions of Contract
HDMI-	High Definition Multimedia Interface
IDU-	In Door Unit
IFP-	Investment Project Financing
INSAT-	Indian National Satellite
IP-	Internet Protocol
ITB-	Instruction to Bidders
LMS-	Learning Management System
LNBC-	Low Noise Block Converter
LNBF-	Low Noise Block Feed horn
MFTDMA-	Multiple Frequency Time Division Multiple Access
MPEG-	Motion Pictures Expert Group
NIMI-	National Instructional Media Institute
NMS-	Network Management System
NOCC	Network Operation and Control Centre
ODU-	Out Door Unit
OEM-	Original Equipment Manufacturer
OFC-	Optical Fibre Cable
RF-	Radio Frequency
ROT-	Receive Only Terminal
SCC-	Special Conditions of Contract
SDI-	Serial Data Interface
SIT-	Satellite Interactive Terminal
SLA-	Service Level Agreement
SMPTE-	Society of Motion Pictures & Television Engineers
TDM-	Time Division multiplexing
TDMA-	Time Division Multiple Access
TE-	Teaching End
TEC-	Technical Evaluation Committee
UPS-	Un-interrupted Power Supply
VLAN-	Virtual Local Area Network
VSAT-	Very Small Aperture Terminal

**SECTION I: INVITATION FOR BIDS (IFB)**

**SECTION I.**  
**INVITATION FOR BIDS (IFB)**

Date: 03.07.2017 IFBNo.: NIMI/MS/C-211101/Media/2017

Credit No: 4319IN

1. There is need of e-learning system in the field of vocational training to cover all ITIs including those located in far- flung areas of the country. This can be best achieved by using latest technology available i.e space technology. In this regard, the Government of India has received a credit from International Development Association (IDA) in various currencies towards the cost of Vocational Training Improvement Project and it is intended that part of the proceeds of the credit will be applied to eligible payments under the contract for which that Invitation for Bids is issued for establishing a Distance Learning network using satellite communication.
2. The project aims at making distance learning operational across 35 Centrally Financed Institutes (CFI) and 675 Govt. ITIs and for this, a Satcom VSAT Network with Hub to be established at NIMI, Chennai and Satellite Interactive Terminals(SIT) to be established at distance learning centres. The hub will be having antenna of approximately 9m diameter with necessary transmit and receive electronics and SITs will be having antenna of diameter 1.2m/2.4m with necessary electronics. Apart from this 5 numbers of Receive only Terminals (ROT) with 0.9m antenna diameter and set top box will be installed. The network will be operating in Ku- band frequencies.
3. Procurement will be in two packages namely Package-1 and Package-2 as given in the following table. The evaluation will be for both the packages combined. The contract for package-2 will be a framework agreement for a period of one year during which Purchase Orders will be issued by State Govts.

**Table for Packages**

Package	Brief Description	Qty.	Delivery	Estimated Cost Rs.lakh	Bid Security Rs. Lakh	Validity of Bid Security
1	Establishment of Hub + 35 SIT + 5ROT	Hub-1 SIT-35 ROT-5	Within 6 months from placement of order	560	25.6 for both the packages	120 days from last date of submission
2	SIT	675	6 to 18 months from placement of order	2000		

**Order for SITs in package-2 will be placed only for those items listed in Table of deliverables under package-2. Remaining items SITs like PC, Display TV, UPS etc. may be ordered by the State Govts. from other sources.**

4. The Executive Director, National Instructional Media Institute (Purchaser) now invites Bids under e-procurement system from eligible bidders, for Supply, Installation, commissioning, Operation and maintenance of Hub, SIT and ROT for Satellite Based Distance Learning Programme.
5. Bidders are advised to note the eligible criteria as given in ITB Clause 4 & 5 and qualification criteria specified in Section III to qualify for award of the contracts. The Bidders are required to submit bids consisting of documents/information as specified in clause 11 of ITB.

The bid document is available online and bids are to be submitted online through the e-procurement portal <https://eprocure.gov.in> only. Bids submitted in any other manner will not be accepted. Bidders are required to obtain Level III Digital signature from designated firms (available on Portal and then register with the Government of India e-procurement platform and submit bids by using their User ID and Digital Signature.

6. Bidders must provide Bid Security as specified in the bid document and pay the bid processing fee as per requirement.
7. Bids along with necessary enclosures must be uploaded to the web site <https://eprocure.gov.in> as per bid schedule mentioned on page 34 [ITB 11.1 (i)] and bids will be opened at the specified venue on the stipulated date and time, in the presence of the bidders or their authorized representatives who wish to attend. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. Two bids namely Part-1 named “Technical Part” and Part-2 named “Financial Part” should be uploaded. Technical part will be publicly opened in the presence of Bidders’ designated representatives and anyone who chooses to attend, at the address given below. Second bid Financial Part will remain unopened. Financial bid will be opened after the evaluation of the technical bid as given in the bid document.
8. Framework agreement as per format in Part- 4 will be for package-2 signed and order will be placed to the bidder that offers lowest price and comply with delivery requirements by NIMI for packge-1 and by End Implementing Agencies(EIA) namely State Govts for package-2. The framework agreement will impose no obligation on NIMI or EIA to purchase the estimated or any quantity from the bidders who sign the framework agreements. The framework agreement shall be valid for a period of 1 year from the date of signing of the agreement.
9. **Pre bid meeting will be held at MSDE Office, Shram Shakthi Bhavan, Rafi Marg, New Delhi. Details will be available in websie: <http://nimi.gov.in/>**

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# **PART 1 – BIDDING PROCEDURES**



**SECTION I - INSTRUCTIONS TO BIDDERS [ITB]**

# Section I. Instructions to Bidders

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# Section I. Instructions to Bidders

## A. General

1. **Scope of Bid**
  - 1.1 The Purchaser **indicated in the Bidding Data Sheet (BDS)**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VI, Schedule of Requirements. The name and identification number of this National Competitive Bidding (NCB) procurement are **specified in the BDS**. The name, identification, and number of lots are **provided in the BDS**.
  - 1.2 Throughout these Bidding Documents:
    - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
    - (b) if the context so requires, “singular” means “plural” and vice versa; and
    - (c) “day” means calendar day.
2. **Source of Funds**
  - 2.1 The Government of India (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Development Association (hereinafter called “the Bank”) toward the cost of the project **named in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
  - 2.2 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the financing agreement between the Borrower and the Bank (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan Agreement. The Loan Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the funds.
3. **Fraud and Corruption**
  - 3.1 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and contractors and their subcontractors under Bank-financed contracts, observe the highest standard of ethics during the

procurement and execution of such contracts.<sup>1</sup> In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice”<sup>2</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
  - (ii) “fraudulent practice”<sup>3</sup> is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
  - (iii) “collusive practice”<sup>4</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - (iv) “coercive practice”<sup>5</sup> is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - (v) “obstructive practice” is
    - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
    - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under sub-clause 3.1 (e) below.
- (b) will reject a proposal for award if it determines that the

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<sup>1</sup> *In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper.*

<sup>2</sup> *“another party” refers to a public official acting in relation to the procurement process or contract execution]. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.*

<sup>3</sup> *a “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.*

<sup>4</sup> *“parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.*

<sup>5</sup> *a “party” refers to a participant in the procurement process or contract execution.*

bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;

- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur;
- (d) will sanction a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a Bank-financed contract if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, a Bank-financed contract; and
- (e) will have the right to require that a provision be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers, and contractors and their sub-contractors to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

3.2 Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 35.1 (a) (iii) of the General Conditions of Contract.

#### **4. Eligible Bidders**

4.1 A Bidder, and all parties constituting the Bidder, may have the nationality of any country, subject to the restrictions specified in Section V, Eligible Countries. A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including Related Services.

4.2 A Bidder shall not have a conflict of interest. All bidders found to have conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this bidding process, if they:

- (a) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under these Bidding Documents ; or
- (b) submit more than one bid in this bidding process, except for

alternative offers permitted under ITB Clause 13. However, this does not limit the participation of subcontractors in more than one bid;

- 4.3 A Bidder that is under a declaration of ineligibility by the Bank in accordance with ITB Clause 3, at the date of contract award, shall be disqualified. The list of debarred firms is available at the electronic address specified in the **BDS**.
- 4.4 A firm that has been determined to be ineligible by the Bank in relation to the Bank Guidelines On Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants shall not be eligible to be awarded a contract.
- 4.5 Government-owned enterprises in the Borrower's Country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Purchaser or Borrower or Sub-Borrower.
- 4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

## **5. Eligible Goods and Related Services**

- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

## **B. Contents of Bidding Documents**

## **6. Sections of Bidding Documents**

- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addendum issued in accordance with ITB Clause 8.

### **PART 1 Bidding Procedures**

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries

## **PART 2 Supply Requirements**

- Section VI. Schedule of Requirements

## **PART 3 Contract**

- Section VII. General Conditions of Contract (GCC)
- Section VIII. Special Conditions of Contract (SCC)
- Section IX. Contract Forms

## **PART 4 Frame Work Agreement**

6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Documents.

6.3 The Purchaser is not responsible for the completeness of the Bidding Documents and their addendum, if they were not obtained directly from the Purchaser.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.

### **7. Clarification of Bidding Documents**

7.1 A prospective Bidder requiring any clarification of the Bidding Documents including Framework Agreement shall notify online the authority inviting the bid. The authority inviting the bid will respond to any request(s) for clarification received earlier than 10 days prior to the deadline for submission of bids. Description of clarification sought and the response of the authority inviting the bid will be uploaded for information of the other bidders without identifying the source of request for clarification. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB Clause 8 and ITB Sub-Clause 24.2.

### **8. Amendment of Bidding Documents**

8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents including the document for setting up Framework Agreement by issuing addendum. The addendum will appear on the web page of the portal <https://eprocure.gov.in> and email communication will be sent to all registered bidders.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be notified as Addendum / Corrigendum in the e-procurement portal which shall be binding in all prospective bidders.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB Sub-Clause 24.2. This shall be notified in the e-procurement portal.

## **C. Preparation of Bids**

### **9. Cost of Bidding**

9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

### **10. Language of**

10.1 The Bid, as well as all correspondence and documents relating to



## **Bid**

the bid exchanged by the Bidder and the Purchaser, shall be written in English language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.

### **11. Documents Comprising the Bid**

11.1 The Bid shall comprise the following, the scanned copies of which shall be uploaded on the e-procurement platform.

- (a) Bid Form and the applicable Price Schedules, in accordance with ITB Clauses 12, 14, and 15;
- (b) Bid processing fee and Bid Security deposit details in accordance with ITB Clause 21, in the form as given in Section IV;
- (c) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB Clause 22;
- (d) documentary evidence in accordance with ITB Clause 16 establishing the Bidder's eligibility to bid;
- (e) documentary evidence in accordance with ITB Clause 17, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
- (f) documentary evidence in accordance with ITB Clauses 18 and 30, that the Goods and Related Services conform to the Bidding Documents;
- (g) documentary evidence in accordance with ITB Clause 19 establishing the Bidder's qualifications to perform the contract if its bid is accepted; and
- (h) Manufacturers authorization form in the prescribed Form as given in Section IV;.
- (i) any other document **required in the BDS.**

11.2. The following documents shall be submitted by post/courier to the Purchaser for verification and scrutiny within five days after the last date of submission:

- a) Original Power of Attorney;
- b) Original Bid security instruments such as Letter of Credit/ Bank Guarantee/Demand Draft/ Banker's (cashier's) Cheque;
- c) Original affidavit vouching for the correctness of the information furnished and documents uploaded;

The Letter of Credit/Bank Guarantee/Demand Draft/Banker's

(Cashier's) cheque etc. would be checked for their genuineness, adequacy with respect to amount, validity and acceptability. The bids of only those bidders who have produced the originals as above for verification and review and found acceptable and those who have paid the stipulated bid security either by cash or acceptable instruments would be opened at the appointed time to be notified on the e-procurement portal.

11.3 In case of discrepancy between the uploaded documents and the originals the original shall prevail.

**12. Bid Submission Form and Price Schedules**

12.1 The Bidder shall complete the Bid Form using the form furnished in Section IV, Bidding Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. The completed Bid Form shall be uploaded through e-procurement portal.

**13. Alternative Bids**

13.1 Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

**14. Bid Prices and Discounts**

14.1 The prices and discounts quoted by the Bidder in the Bid Form and in the Price Schedules shall conform to the requirements specified below.

14.2 All lots (contracts) must be listed and priced separately in the Price Schedules.

14.3 The price to be quoted in the Bid Form shall be the total price of the bid, excluding any discounts offered.

14.4 The Bidder shall quote any unconditional discounts and indicate the method for their application in the Bid Form.

14.5 The terms EXW and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, as specified in the **BDS**.

14.6 Prices shall be quoted as specified in the Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V Eligible Countries. Prices shall be entered in the following manner:

(a) **For Goods:**

(i) the price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable), including all duties (customs, excise etc.) and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;

(ii) any VAT, sales tax and other taxes which will be

payable on the Goods if the contract is awarded to the Bidder; and

(iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified in the **BDS**.

(b) **For the Related Services**, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:

(i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

(c) bidders may like to ascertain availability of excise duty exemption benefits, available for contracts financed under World Bank Credits/ Loans. They are solely responsible for obtaining such benefits, which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Purchaser will not compensate the bidder.

Where the bidder has quoted taking into account such benefits, he must give all information required for issue of necessary Certificates in terms of the Central Excise Notification -108/95 along with his bid in form at S. No. 8 of Section VI. Where the Purchaser issues such Certificates, Excise Duty will not be reimbursed separately.

14.7 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified in the **BDS**. A Bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected, pursuant to ITB Clause 30. However, if in accordance with the **BDS**, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

14.8 If so indicated in ITB Sub-Clause 1.1, bids are being invited for individual contracts (lots) or for any combination of contracts (packages). Prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer any price reduction (discount) for the award of more than one Contract shall specify the applicable price reduction in accordance with ITB Sub-Clause 14.4 provided the bids for all lots are submitted and opened at the same time.

**15. Currencies of Bid**

15.1 The Bidder shall quote in Indian Rupees only.

**16. Documents Establishing the Eligibility of the Bidder**

16.1 To establish their eligibility in accordance with ITB Clause 4, Bidders shall complete the Bid Form, included in Section IV, Bidding Forms.

- 17. Documents Establishing the Eligibility of the Goods and Related Services**
- 17.1 To establish the eligibility of the Goods and Related Services in accordance with ITB Clause 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 18. Documents Establishing the Conformity of the Goods and Related Services**
- 18.1 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VI, Schedule of Requirements.
- 18.2 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Schedule of Requirements.
- 18.3 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 18.4 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Schedule of Requirements.
- 19. Documents Establishing the Qualifications of the Bidder**
- 19.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) (i) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
- (ii) Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid will be treated as non-responsive.

(b) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

(c) Bids from Joint Ventures are not acceptable

**20. Period of Validity of Bids**

20.1 Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid security is requested in accordance with ITB Clause 21, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB Sub-Clause 20.3.

20.3 In the case of fixed price contracts, if the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be adjusted as by the factor [*value of factor stated in BDS*] for each week or part of week that has elapsed from the expiration of the initial bid validity to the date of notification of award to the successful bidder. Bid evaluation shall be based on the Bid Price without taking into consideration the above correction.

**21. Bid Processing fee and Bid Security**

21.1 The Bidder shall furnish as part of its bid, the requisite bid processing fee and a Bid Security, if required, as **specified in the BDS**.

21.2 The requisite bid processing fee has to be paid in the method as detailed in Clause 21.3 hereunder. However the bid security could be paid either in the method as detailed in Clause 21.3 hereunder or through financial instruments as detailed in Clause 21.5 hereunder.

21.3 The Bid Security shall be in the amount specified in the BDS and shall be denominated in Indian Rupees and shall be paid using any of the following payment modes and payment receipt shall be uploaded on e-procurement portal:

- Credit Card.
- Direct Debit.
- NEFT/RTGS.
- Over the counter (OTC).

The Bank A/C Details :

**UNION BANK OF INDIA  
CTI CAMPUS, GUINDY, CHENNAI 600032  
ACCOUNT NO. 409201011010039  
IFSC CODE: UBIN0557048  
PAN NO. AAAAN2566R  
TAN NO. CHEC021093C**

The OTC payment facility will be available at the designated UNION BANK OF INDIA branches for making payments from the dates of

notification of IFB.

- 21.4 The Bid security shall be in the amount specified in the BDS and denominated in the currency of the Purchaser's Country or a freely convertible currency; and shall
- 21.5 At the bidder's option be in the form of either a certified cheque, demand draft, letter of credit or a bank guarantee from a Nationalized/Scheduled Bank in India.
- 21.6 Be substantially in accordance with one of the forms of Bid security included in Section IV, Bidding Forms, or other form approved by the Purchaser prior to bid submission;
- 21.7 Be payable promptly upon written demand by the Purchaser in case the conditions listed in ITB Clause 21.5 are involved
- 21.8 Be submitted in its original form; copies will not be accepted; remain valid for a period of 45 days beyond the validity period of the bids; as extended, if applicable in accordance with ITB Clause 20.2.
- 21.9 Confirmation of the receipt of the Bid processing fee and Bid Security in NIMI A/C in the specified bank shall be verified. **If the bidder exercises the option of paying the Bid Security as indicated in ITB Clause 21.3 and if an acceptable Bid Security is not received the system will not open and allow the bidder to submit its bid.**
- 21.10 The Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the Performance Security pursuant to ITB Clause 44.
- 21.11 The Bid Security may be forfeited:
  - (a) if a Bidder
    - (i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form, except as provided in ITB Sub-Clause 20.2;
  - (b) if the successful Bidder fails to:
    - (i) sign the Contract in accordance with ITB Clause 43;
    - (ii) furnish a Performance Security in accordance with ITB Clause 44.

Not used

- 21.12 If a bid security is **not required in the BDS**, and
  - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in ITB 20.2, or
  - (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 43; or furnish a performance security in accordance with ITB 44;the Borrower may, **if provided for in the BDS**, declare the Bidder disqualified to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

## 22. Format and Signing of Bid

- 22.1 The digital signature shall be obtained by the bidder from the designated companies as given in the e-procurement portal and

then get registered on the e-procurement portal. The user ID and password would be assigned by the system. The bidder shall upload the bid along with all the requisite documents through e-procurement platform by using the user ID and digital signature. Any queries relating to the process of online bid submission may be directed to **24X7 portal help desk on Toll free no. 18002337315**

- 22.2 Any interlineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

#### **D. Submission and Opening of Bids**

### **23. Submission, Sealing and Marking of Bids**

- 23.1 The bidders shall upload the bid through e-procurement platform. No other mode of submission is permitted.

- 23.2 BidForm and other documents as detailed in Clause ITB Clause 11

- (a) shall be addressed to Purchaser before uploading:

Only the originals of Power of Attorney, the bid security (if it is in the form of Bank Guarantee/DD/CC) and the Original affidavit vouching for the correctness of the information furnished and documents uploaded shall be produced or delivered by post/courier to: The Executive Director, National Instructional Media Research Institute (NIMI), Post Box No. 3142, CTI Campus, Guindy Industrial Estate, Guindy, Chennai-600032. within 5 days after the last date of submission which shall be verified and retained by the Purchaser.

The bidder is solely responsible to ensure submission of the requisite documents within the stipulated period and the Purchaser will not be responsible for postal/courier delays.

- (b) bear the Project Name, Invitation of Bids (IFB) title and number.

- 23.3 In addition to the identification required in Sub-clause 23.2 above, the bidder shall provide the name and address of the Bidder to make further correspondence.

- 23.4 Telex, Cable or Facsimile bids will be rejected as non-responsive. Bids submitted by any other means other than through e-procurement portal of Govt. of India shall be rejected.

### **24. Deadline for Submission / Uploading of Bids**

- 24.1 Bids must be submitted/ uploaded by the Bidders no later than the date and time **Specified in the BDS** through the e-procurement platform. The e-procurement platform will not accept the bids after the stipulated date and time (as per the time of the e-procurement platform).

- 24.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB Clause 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended. The amendment/notification shall be notified in the e-procurement platform.

- 25. Late Bids** 25.1 Bids cannot be uploaded by the Bidders after the deadline for submission / uploading of bids (as per the e-procurement platform time) prescribed by the Purchaser pursuant to ITB Clause 24.
- 26. Withdrawal, Substitution, and Modification of Bids** 26.1 In the “My bids” Section of the e-procurement the Bidder can view the status of their bids and decrypt bid (i.e in cases where the Bidder has chosen to encrypt the bid using his own public key) for modification or withdrawal before the stipulated date and time for submission / uploading.  
Bidders may cancel/modify their bids online before the deadline for submission of bids.
- 26.2 For modification of bids, the bidder need not make any additional payment towards the cost of bidding process. For bid modification and consequential re-submission, the bidder is required to cancel his bid submitted earlier (only the financial bid is cancelled. All the uploaded documents would be there). The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission the modification/cancellation is allowed any number of times. The bidders may cancel its bid by clicking on the cancel button in the My Bids Section before the deadline for submission of bids, however if the bid is cancelled and not re-submitted with the stipulated time on the last date of submission of bids, it would deemed withdrawn.
- 26.3 No bid may be modified/ cancelled online after the deadline for submission of bids.
- 26.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 20 above or as extended pursuant to Clause 20 is not allowed in the e-procurement system. If a bidder does the same through any other medium, then it may result in the forfeiture of the bid security pursuant to Clause 21.11. Any queries relating to the process of online bid submission may be directed to **24X7 portal help desk on Toll free no. 18002337315**
- 27. Bid Opening** 27.1 The Purchaser will open / unlock all bids uploaded through e-procurement platform in the presence of the bidders representations who chose to attend **at the stipulated place, date and time as given in BDS.**  
The Bidders representatives who are present shall produce authorization letter and shall sign a register evidencing their attendance.
- 27.2 The Bidders names, the sufficiency or otherwise of the bid security, the bid prices, discounts and alternative offers and such other details as the Purchaser, at its discretion, may consider appropriate will be announced at the opening. No bids shall be rejected at the bid opening.



27.3 The Purchaser shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder; the Bid Price per lot if applicable, including any discounts, and alternative offers if they were permitted; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the attendance sheet. A copy of the record shall be distributed to all Bidders who submitted bids in time, and posted online.

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

#### **28. Confidentiality**

28.1 Information relating to the examination, evaluation, comparison, and post-qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the Contract Award.

28.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post-qualification of the bids or contract award decisions may result in the rejection of its Bid.

28.3 Notwithstanding ITB Sub-Clause 28.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.

#### **29. Clarification of Bids**

29.1 No change in the prices or substance of the Bid shall be sought, offered, or permitted.

#### **30. Responsiveness of Bids**

30.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.

30.2 A substantially responsive Bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

(a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or

(b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or

(c) if rectified would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

30.3 Bids from Agents, without proper authorization from the manufacturer as per Section IV, shall be treated as non-responsive.

30.4 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.

- 31. Nonconformities, Errors, and Omissions**
- 31.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.
- 31.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 32. Preliminary Examination of Bids**
- 32.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 11 have been provided, and to determine the completeness of each document submitted.
- 32.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected and the bid security may be forfeited.
- (a) Bid Submission Form, in accordance with ITB Sub-Clause 12.1;
  - (b) Price Schedules, in accordance with ITB Sub-Clause 12.2;
  - (c) Bid Security in accordance with ITB Clause 21. Where the bidder has bid for more than one line item of equipment and if the Bid Security amount furnished is inadequate for all the items of equipment bid, the Purchaser shall take the bids into account only to the extent the bids are secured. For this purpose, the extent to which, the bids are secured shall be determined by evaluating, the requirement of bid security to be furnished for the items of equipment in the bid in the serial order of the Schedule of Requirement (Section VI) of the bid document.
  - (d) Authorization from the Manufacturer in the format as given in Section IV, in case the Bidder is not the Manufacturer but is an Agent.
- 33. Examination of Terms and Conditions; Technical Evaluation**
- 33.1 The Purchaser shall examine the bid to confirm that the Bidder has accepted all terms and conditions specified in GCC and the SCC. without material deviations or reservation. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 18). Warranty (GCC Clause 28), Force Majeure (Clause 32), Limitation of liability (GCC Clause 30), Governing law (GCC Clause 9) and Taxes & Duties (GCC Clause 17) will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 33.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 18, to confirm that all

requirements specified in Section VI, Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

33.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 30, it shall reject the Bid.

**34. Conversion to Single Currency** Not used

**35. Domestic Preference** Not used

**36. Evaluation of Bids**

36.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive for each item separately. No bid will be considered if the complete requirement as given in the Schedule of Requirement (Section VI) is not included in the Bid. The bidders are allowed the option to bid for any one or more items and to offer discounts for more than one item. These discounts will be taken into account in the evaluation of the bid so as to determine the bid or combination of bids offering the lowest offering the lowest evaluated cost for the Purchaser in deciding the award (s) for each item in terms of provisions of Clause 14.8 of ITB.

36.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined in ITB Clause 36. No other criteria or methodology shall be permitted.

36.3 To evaluate a Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots, as **specified in the BDS**; and the Bid Price as quoted in accordance with clause 14;
- (b) price adjustment due to discounts offered in accordance with ITB Sub-Clause 14.4;
- (c) adjustments due to the application of the evaluation criteria **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria;

36.4 The Purchaser's evaluation of a bid will exclude and not take into account:

- (a) In the case of Goods manufactured in India or goods of foreign origin already located in India, vat, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
- (b) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

36.5 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB Clause 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise specified in

Section III, Evaluation and Qualification Criteria. The factors, methodologies and criteria to be used shall be as specified in ITB 36.3 (c).

- 36.6 If so **specified in the BDS**, these Bidding Documents shall allow Bidders to quote separate prices for one or more lots, and shall allow the Purchaser to award one or multiple lots to more than one Bidder. The methodology of evaluation to determine the lowest-evaluated lot combinations is specified in Section III, Evaluation and Qualification Criteria.
- 37. Comparison of Bids** 37.1 The Purchaser shall compare all substantially responsive bids to determine the lowest-evaluated bid, in accordance with ITB Clause 36.
- 38. Post-qualification of the Bidder** 38.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid is qualified to perform the Contract satisfactorily.
- 38.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 19.
- 38.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.
- 39. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids** 39.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

## **F. Award of Contract**

- 40. Award Criteria** 40.1 The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 41. Purchaser's Right to Vary Quantities at Time of Award** 41.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VI, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.
- 42. Notification of Award** 42.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted.
- 42.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract
- Publication of**

- Award**
- 42.3 The Purchaser shall publish in a National website[GOI web site-<http://tenders.gov.in>]the results identifying the bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the award, unsuccessful bidders may request in writing to the Purchaser for a debriefing seeking explanations on the grounds on which their bids were not selected. The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after Publication of contract award, requests a debriefing.
- 42.4 Upon the successful Bidder’s furnishing of the performance security and signing the Contract Form and Framework Agreement pursuant to ITB Clause 44, the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 21.4.
- Recourse to unsuccessful Bidders**
- 43. Signing of Contract/Framework work Agreement**
- 43.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement/ form for setting up framework agreement and the Special Conditions of Contract.
- 43.2 Within twenty-one (21) days of receipt of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.
- 44. Performance Security**
- 44.1 Within twenty one (21) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC and conditions of framework agreement, using for that purpose the Performance Security Form included in Section IX Contract forms, or another Form acceptable to the Purchaser. The Purchaser shall promptly notify the name of the winning Bidder to each unsuccessful Bidder and discharge the Bid Securities of the unsuccessful bidders pursuant to ITB Sub-Clause 21.4.
- 44.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.
- 45. Purchase Orders**
- NIMI will sign the Contract for Packages-1 and the Framework Agreement with the successful bidder. For Package 2, the End Implementing Agencies (EIAs) will issue the Purchase Orders directly to the successful bidder during the validity of Framework Agreements and will specify the details like quantity, delivery location, delivery schedule, CAMC, etc. for package-2

## Section II - Bidding Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	<b>A. General</b>
<b>ITB 1.1</b>	The Purchaser is: <i>National Instructional Media Institute (NIMI)</i>
<b>ITB 1.1</b>	The name and identification number of the NCB are: <b>Supply, Installation, commissioning, Operation and maintenance of hub, SIT and ROT for Satellite Based Distance Learning Programme</b>  NIMI/MS/C-211101/Media/2017 Date:30.06.2017 Number of lots: 1 lot comprising of two packages. The evaluation will be for both the packages combined.
<b>ITB 2.1</b>	The Borrower is Government of India (GOI)
<b>ITB 2.1</b>	The name of the Project is: <b><i>Vocational Training Improvement Project.</i></b>
<b>ITB 4.3</b>	A list of firms debarred from participating in World Bank projects is available at <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a>
<b>B. Contents of Bidding Documents</b>	
<b>ITB 7.1</b>	For <b><u>Clarification of bid purposes</u></b> only, the Purchaser's address is: Attention: Shri Madhu P. Nair, Executive Director, NIMI Address: Post Box No. 3142, CTI Campus, Guindy Industrial Estate, Guindy, Chennai-600032 City: Chennai ZIP Code: 600032 Country: INDIA Telephone: 91-44-22500256 Facsimile number: 91-44-22500791 Electronic mail address: Chennai-nimi@nic.in Web Page: <a href="http://nimi.gov.in">http://nimi.gov.in</a>
<b>C. Preparation of Bids</b>	
<b>ITB 11.1(i)</b>	The Bidder shall submit the following additional documents in its bid: 1. Certification of incorporation of the bidder and manufacturer 2. The bidder shall clearly confirm that all facilities exist with him (or manufacturer, as applicable) in his factory for inspection and testing and these can be accessed by the Purchaser or his representative for inspection. 3. Technical schedules of goods as required by technical specifications. 4. Descriptive Documents, drawings, notes and references of operating and assembly of mechanical parts 5. A detailed description of the Goods essential technical and performance characteristics: 6. A clause-by-clause commentary on the Purchaser's technical specifications demonstrating substantial responsiveness of the Goods and Services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

	<p>7. For purposes of the commentary to be furnished pursuant to Paragraph 6 above, the Bidder shall note that standards for workmanship, material and goods, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications</p> <p>8. The documentary evidence of the goods and services eligibility shall consist of a statement in the Price Schedule on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment</p> <p>9. Non-manufacturer bidders will submit the manufacturer's authorization Form as per Proforma in Section IV.</p> <p>10. The following details shall also be provided by Indian Bidders:</p> <ol style="list-style-type: none"> <li>a. Name, address, PAN and ward/circle where they are being assessed of the Directors of the Bidding Company.</li> <li>b. Company's PAN and Income Tax clearance certificate and ward/circle where it is being assessed,</li> <li>c. Registration details of the company under VAT, local and Central Sales Tax, and other laws as may be applicable and also Sales tax/VAT clearance certificate</li> </ol> <p>- The bidders from outside India shall provide the corresponding details of Income Tax registration, Social Security Number, details regarding Registration under Value Added Tax or sale of goods (as may be applicable) etc</p> <p>11. The bidder shall disclose instance of previous past performance that may have resulted into adverse actions taken against the bidder during the last five years.</p> <p>12. Scanned copies of Power of Attorney, the bid security (if it is in the form of Bank Guarantee/DD/CC) and the Original affidavit vouching for the correctness of the information furnished and documents uploaded need to be uploaded. Original copies of these documents need to be delivered by post/courier as per ITB 23.2</p>
<b>ITB 13.1</b>	Alternative Bids shall not be considered.
<b>ITB 14.5</b>	The Incoterms edition is Incoterm 2010.
<b>ITB 14.6 (a) (iii)</b>	"Final destination (Project Site)": Vide Form-1 in Schedule of Requirement in Section VI. (Hub equipments at NIMI, Chennai and SITs at various locations in India as per Annexure-3. Destinations of ROTs is NIMI, Chennai.
<b>ITB 14.7</b>	The prices quoted by the Bidder shall not be adjustable.
<b>ITB 18.3</b>	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 8 years. Spare Parts should be available up to 8 years.
<b>ITB 19.1 (a)</b>	Manufacturer's authorization is: <i>required as per proforma in Section IV.</i>
<b>ITB 20.1</b>	The bid validity period shall be 90 days after the bid submission deadline.
<b>ITB 20.3</b>	The factor will be 5.5% per annum

<b>ITB 21.1</b>	Bid Security is required.
<b>ITB 21.2</b>	The amount of the Bid Security shall be: INR 25.6 lakh for both the packages namely Package-1 and Package-2. In case no purchase order is issued in first six months, the bid security will be returned.
<b>D. Submission and Opening of Bids</b>	
<b>ITB 27.1</b>	Last Date and Time for Submission/Uploading Bid: 07-08-2017 Upto 5-00 PM The technical bid opening shall take place at: <b>Address:</b> <b>Office of the Executive Director,</b> National Instructional Media Institute, Post Box No. 3142, CTI Campus, Guindy Industrial Estate, Guindy, Chennai-600032 City: Chennai ZIP Code: 600032 Country: INDIA  Date: <b>08/08/2017</b> Time: 11-00 AM
<b>E. Evaluation and Comparison of Bids</b>	
<b>ITB 36.3(a)</b>	Evaluation will be done for ‘Lot’ Bids will be evaluated as ‘Lot’, comprising of two packages. The bidder shall quote the cost of equipment and including the warranty services and the associated services for installation and commissioning for the 1 <sup>st</sup> year, plus the CAMC for next two years. The CAMC contract shall be awarded for a period of 2(two) years and will commence after successful completion of one year warranty period. <i>“Bids will be evaluated lot by lot. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. An item not listed in the Price Schedule shall be assumed to be not included in the Bid, and provided that the Bid is substantially responsive, the average price of the item quoted by substantially responsive Bidders will be added to the Bid price and the equivalent total cost of the Bid so determined will be used for price comparison.”]</i>
<b>ITB 36.3(c)</b>	The evaluation will take into account the cost of equipment and services as per the price of goods and services schedule, plus the cost of the CAMC for two years after the expiry of one year warranty period. The quoted CAMC costs will be discounted at the rate of 6% per annum for the purpose of evaluation.
<b>ITB 36.6</b>	Bidders are required to quote for the entire lot comprising two packages.
<b>F. Award of Contract</b>	
<b>ITB 41.1</b>	The maximum percentage by which quantities may be increased is: 15% The maximum percentage by which quantities may be decreased is: 15%



# **SECTION III. EVALUATION AND QUALIFICATION CRITERIA**

## **Contents**

1. Evaluation Criteria (ITB 36.3 {c})
2. Multiple Contracts (ITB 36.6)
3. Post-qualification Requirements (ITB 38.2)

## 1. Evaluation Criteria (ITB 36.3 (c))

The evaluation will take into account the cost of equipment, and including the warranty services and the associated services for installation and commissioning for the 1<sup>st</sup> year plus the CAMC for the next two years. The Lowest Responsive evaluated bid is the Bid of the Bidder which is substantially responsive for the technical specifications ( that meets the qualification criteria) and the lowest in terms of cost. This will be determined to be:

- (a) Substantially responsive to the bidding document, and
- (b) the lowest evaluated cost.

**Note:** The list of deliverables provided in this BID Document is indicative in nature and bidders should try to reconcile or match their proposal to these as far as possible.

However, given the nature of the total requirement, it is understood that the requirements of this BID Document are possible to be met through variety of solutions from different OEMs, incorporating different components. Under this circumstance, bidders are requested to submit deliverable list as per the turnkey solution proposed, in the technical bid (without prices) and the price bid (with prices). **The bidders should quote for 675 additional SITs as mentioned in Package-2. However order may be placed for additional SITs within one year after successful completion of the network establishment as per the framework agreement. The order for 675 SITs will be placed by the State Govts.(End Implementing Agencies) . For evaluation purposes the cost of both the packages will be combined. Order for additional SITs will be placed only for those items listed in Table of deliverables under package-2. Remainibg items SITs like PC, Display TV, UPS etc. may be ordered by the State Govts. from other sources.**

Based upon the assessment of technical bids, and the clarifications that may be sought from the bidders , it may be noted that some of the quoted items may get added to, or dropped from final “schedule of requirements” in the two packages.

On selection of technically suitable Bids and finalization of essential item’s list for each technically suitable bid by the TEC, the price bids (Part-2 Financial Part) shall be opened.

Lowest offer will be determined on the basis of landed cost of the entire Bill of Material (deliverables) for the two packages including the cost of equipment, the warranty services and the associated services for installation and commissioning for the 1<sup>st</sup> year plus the CAMC for the next two years.

## 2. Multiple Contracts (ITB 36.6)

Nil

## 3. Post-qualification Requirements (ITB 38.2)

After carrying out the post qualification of the Bidder in accordance with ITB Clause 38 using only the requirements specified, the purchaser shall determine the lowest-evaluated bid in accordance with ITB Sub-Clause 37.1. Requirements not included in the text below shall not be used in the evaluation of the Bidder’s qualifications.

(a) Financial Capability for all bidders

The Bidder shall furnish documentary evidence that it meets the following financial requirement(s):

<b>Financial Requirement</b>	<b>Eligibility</b>	<b>Documentary evidence to be furnished</b>
Networth	Positive for 3 years	Annual reports and Audited balance sheet/ certificate from CA/ Auditor [For Year 2013-14; 2014-15 and 2015-16]
Annual Turnover	A minimum of INR 5.0 crore (in each year) for 3 years	
Cash flow	A minimum of INR 1 crore (in each year) for 3 years	

(b) Experience and Technical Capacity

**A) For all bidders (Manufacturer and Non Manufacturer)**

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):

1. The Bidder should have experience in the field of Satellite Communication (Wide Area Network design involving VSATs, Satellite Gateways, system integration, supply, installation, commissioning, on-site maintenance of VSATs as well as VSAT Hub and VSAT Network operations etc.) and should have carried out establishing VSAT network recommended by ISRO to various users within the period of last **Five years**.
2. The Bidder must have experience of successful execution/maintenance of VSAT network with minimum of 100 remote stations implementation /maintenance of at least **one project** whose individual value is not less than Rs. 100 lakhs in the last **Five years and provide documentary evidence for the same**.
3. The Bidders must have a total staff of at least 20 technically qualified personnel in providing the managed VSAT services (hub operations) in the last 2 years.
4. The bidder should provide the list of personnel to be deployed at the hub. The bidder should deploy at least 1 engineer each for hub management. The deployed engineers should have a diploma plus 3 years of experience/ BTech plus at least 2 years' experience in the relevant field of handling installation of VSATs, maintenance of VSATs and knowledge of RF section and studio management. It is preferable that the person should have experience in networking also.
5. The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement **namely** Equipment supplied should meet the technical specifications as given in section "Technical Specifications".
6. The Bidder must furnish details of supplies made by him in the last five years in proforma attached in Section VI (Form 7)

7. The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 4.

**Note:** 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, Project sign-off document, Customer reference list along with contact details, List of Purchaser of similar equipment, 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 must provide copy of PAN in respect of firm, TIN or Service Tax Registration Certificate allotted by concerned authorities**

- B) In the case of a Bidder offering to supply Goods under the Contract that the Bidder does not manufacture or otherwise produce, the Bidder should be duly authorized by the manufacturer of the Goods and the manufacturer furnishes a legally enforceable authorization in the prescribed Form [Section IV] assuring full guarantee and warranty obligations as per GCC and SCC for the goods offered and Notwithstanding anything stated above, the purchaser reserves the right to assess the bidder's capabilities and capacity to execute the contract satisfactorily before deciding on award.

Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or record of poor performance such as, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

# SECTION IV – BIDDING FORMS

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## **BIDDER INFORMATION FORM**

*[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]*

Date: *[insert date (as day, month and year) of Bid Submission]*  
NCB No.: *[insert number of bidding process]*

Page \_\_\_\_\_ of \_\_\_\_\_ pages

1. Bidder's Legal Name <i>[insert Bidder's legal name]</i>
2. Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
3. Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
4. Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
5. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
6. Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i>  <input type="checkbox"/> Articles of Incorporation or Registration of firm named in 1, above, in accordance with ITB Sub-Clauses 4.1 and 4.2.  <input type="checkbox"/> In case of government owned entity from the Purchaser's country, documents establishing legal and financial autonomy and compliance with commercial law and not dependent agency of borrower or sub-borrower or purchaser, in accordance with ITB Sub-Clause 4.5.

*Note: To be completed and submitted /uploaded as a part of the bid.*

## **BID FORM**

*[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each Addenda]*;
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (c) The total price of our Bid, excluding any discounts offered in item (d) below, is: *[insert the total bid price in words and figures, indicating the various amounts and the respective currencies]*;
- (d) The discounts offered and the methodology for their application are:

**Discounts.** If our bid is accepted, the following discounts shall apply.*[Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]*

**Methodology of Application of the Discounts.** The discounts shall be applied using the following method: *[Specify in detail the method that shall be used to apply the discounts]*;

- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 20.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 24.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 44 and GCC Clause 17 for the due performance of the Contract;
- (g) We, including any subcontractors or suppliers for any part of the contract, have nationality from eligible countries
- (h) We have no conflict of interest in accordance with ITB Sub-Clause 4.3;

- (i) Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been declared ineligible by the Bank, under the Purchaser’s country laws or official regulations, in accordance with ITB Sub-Clause 4.6;
- (j) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate “none.”)

- (k) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (l) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (m) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.
- (n) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, “Prevention of Corruption Act 1988.”

Signed: *[insert signature of person whose name and capacity are shown]*  
 In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

Name: *[insert complete name of person signing the Bid Submission Form]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

*Note: To be completed and submitted /uploaded as a part of the bid.*



# Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

**PRICE SCHEDULE/DELIVERABLES- PACKAGE-1**

<b>Hub, SIT and ROT</b>								
							Date: _____	
							NCB No: _____	
							Alternative No: _____	
							Page N <sup>o</sup> _____ of _____	
1	2	3	4	5	6	7	8	9
Line Item No	Description of Goods	Technical specification for goods s in Annexure 1 (check the specific point for each good)	Quantity and physical unit(Main + Spare/ Redundant)	Unit price EXW [including excise duty if any]	Total EXW price per line item [including Excise Duty if any] (Col. 4x5)	Price per line item for inland transportation, insurance and other services required to convey the Goods to their final destination	Sales, vat, and other taxes payable per item if Contract is awarded (in accordance with ITB 14.6(a)(ii))	Total Price per line item (Col. 6+7)
<b>HUB SYSTEM</b>								
1	~9m Ku band antenna with mount	2.1	01					
2	Ku-band four (4) port linearly polarized feed assembly	2.2	01					
3	Antenna controller with auto tracking system	2.3	01					
4	Automatic Uplink Power Control (AUPC) system	2.4	01					
5	Ku Band BUC	2.5	01+01					
6	Ku band PLL LNB	2.6	02 + 01					
7	L-Band Modulator (For DTH broadcast chain	2.7	01 + 01					
8	L band splitter	2.8	01 + 01					
9	L Band combiner	2.9	01 +01					
10	Hub Baseband System for interactive channel	2.10	01 (Lot)					
11	LMS Server	2.11	11 + 01					
12	LMS Teacher PC	2.12	11+01					
13	48 port 1 Gbps managed Layer-3, switch to perform source NAT for interconnecting ATIs IP based lease line connection to Hub router	2.13	01					
14	VoIP system at Hub	2.14	01 (Lot)					

15	Minimum 16x16 channel SDI / ASI routing switcher	2.15	01					
16	SD & HD capable Encoder with interfaces	2.16	02					
17	Multiplexer unit	2.17	01 + 01					
18	LMS PC for terrestrial login for Scan conversion	2.18/3.6	02					
19	Scan Convertor	2.18	02 + 01					
20	UPS and Batteries with minimum 1 hour backup for hub	2.19	01					
21	Generator set for Hub	2.19	01					
22	Monitoring System Configuration	2.20	01 (Lot)					
23	L-Band Spectrum Analyzer	2.21	01					
24	Power Meter	2.22	01					
25	10 MHz Reference Source		01 + 01					
26	Compatible Full Duplex L-Band to optical convertors/compatible transreceivers		02 + 02					
27	Cost of critical spares/consumables suggested by Bidder (Cost breakup of each item to be given)		Items, quantity and its cost					
28	Any other costs such as integration, fabrication, testing, etc. which are not reflected above, towards realization of Network under the scope of this bid document		Items, quantity and its cost					
29	*							
29.1	*							
29.2	*							
	* Any other subsystem(s) or Item(s) proposed by Bidder to meet the requirement(Please fill in the blank columns)							
<b>SIT SYSTEM</b>								
30	1.2m Ku band Antenna with mount and feed	3.1	24					
31	2.4m Ku band Antenna with mount and feed	3.1	11					
32	PLL LNB	3.2	35					
33	BUC (4W)	3.3	35					
34	Transmit receive RF Cable	3.4	35					
35	IDU	3.5	35					
36	Desktop PC	3.6	35					
37	Microphone	3.7	35					
38	Webcam	3.8	35					
39	Ethernet Switch	3.9	35					
40	VoIP system at SIT	3.10	35					
41	Display TV (~42")	3.11	35					

42	UPS (2KVA)and batteries for minimum 1 hr. backup for SIT	3.12	35				
43	Earthing at SIT*		35				
ROT System							
44	0.9m Ku-Band Antenna	4.0	05				
45	Ku- Band Digital LNBF	4.0	05				
46	IFL Cable	4.0	05				
47	Digital Set-Top Box (DVB-S2 Satellite Receiver)	4.0	05				
48	Choice of Set-top Box with recording facility	4.0	05				
49	~42" display TV	4.0	05				
50	*						
50.1	*						
*Any other subsystem(s) or Item(s) proposed by Bidder to meet the requirement(Please fill in the blank columns)							

**Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT "XXXX", OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.**

*Note: To be completed and submitted /uploaded as a part of the bid.*

Price and Completion Schedule - Related Services- PACKAGE-1						
Package 1, Hub, SIT and ROT						Date: _____
						NCB No: _____
						Alternative No: _____
						Page N <sup>o</sup> _____ of _____
1	2	3	4	5	6	7
Service N <sup>o</sup>	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6)
1.	<p><b>HUB SYSTEM</b></p> <p>Site preparation and civil work for antenna foundation (pedestal). Any other civil or related work for antenna installation if required should be detailed with price breakup. Preferably antenna may be mounted on pedestal of suitable height above ground. Site preparation should include noise survey also. Price breakup for noise survey may be included.</p> <p><b>Annexure-2. Guideline for Hub, SIT &amp; ROT Installation, Integration and Commissioning</b></p> <p>Installation &amp; commissioning charge for Hub (inclusive of training charges, if any)</p>					

	Cost of Hub operation for 3 years <i>Year 1</i> <i>Year 2</i> <i>Year 3</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>					
2	<b>SIT SYSTEM</b>					
	Installation and commissioning charges for SIT (35 SITs) (inclusive of training charges, if any) (Accessible/In-Accessible/Island Areas)					
3	<b>ROT SYSTEM</b>					
	Installation and commissioning charges for ROT (5 ROT) and training charges if any					
					Total Bid Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

*Note: To be completed and submitted /uploaded as a part of the bid.*

**Price and Completion Schedule – Comprehensive AMC  
PACKAGE-1**

**Hub, SIT& ROT**

Date: \_\_\_\_\_  
 NCB No: \_\_\_\_\_  
 Alternative No: \_\_\_\_\_  
 Page N° \_\_\_\_\_ of \_\_\_\_\_

1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6)
	<b>HUB SYSTEM</b>			.....		
1	Cost of Comprehensive Annual Maintenance Contract: Comprehensive maintenance for Hub for 3 years on yearly basis; <i>Year 1: first year after expiry of 1 year warranty</i> <i>Year 2: Second year after expiry of 1 year AMC</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>					
2	SIT System  CAMC for SIT Comprehensive maintenance for 3 years on yearly basis. <i>Year 1: first year after expiry of 1 year warranty</i> <i>Year 2: Second year after expiry of 1 year AMC</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>					
3	ROT System  CAMC for ROT Comprehensive maintenance for 3 years on yearly basis <i>Year 1: first year after expiry of 1 year warranty</i> <i>Year 2: Second year after expiry of 1 year AMC</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>					
Total Bid Price						

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

### Price Schedule/DELIVERABLES- PACKAGE-2

1	2	3	4	5	6	7	8	9
1	Framework agreement for additional SITs	Technical specification for goods in Annexure 1 (check the specific point for each good)	Qty.As Under	Unit price EXW [including excise duty if any]	Total EXW price per line item [including Excise Duty if any] (Col. 4x5)	Price per line item for inland transportation, insurance and other services required to convey the Goods to their final destination	Sales, vat, and other taxes payable per item if Contract is awarded (in accordance with ITB 14.6(a)(ii))	Total Price per line item (Col. 6+7)
1.1	1.2m Ku-Band Antenna with Mount and Feed	3.1	675					
1.2	PLL LNB	3.2	675					
1.3	BUC (4 Watts)	3.3	675					
1.4	Transmit Receive IF Cable	3.4	675					
1.5	IDU	3.5	675					
1.6	VOIP System	3.10	675					
17	Desk Top PC	3.6	**					
18	Microphone	3.7	**					
19	Webcam	3.8	**					
20	Ethernet Switch	3.9	**					
21	Display TV(~42")	3.11	**					
22	UPS(2KVA) and batteries for minimum 1 hr. backup	3.12	**					
	*							
	*							
	*Any other subsystem(s) or Item(s) proposed by Bidder to meet the requirement(Please fill in the blank columns)							

Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT XXXX, OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.

**\*\* These items may be ordered by State Govts. from the bidder or from other sources. So unit cost may be specified. This cost will not be considered for evaluation.**

Note: BIDDERS MAY NOTE THAT THE REQUIRED QUANTITY INDICATED ABOVE IS TENTATIVE ONLY. ITEMS IN PACKAGE -2 WILL FURTHER BE SPECIFIED IN THE INDIVIDUAL PURCHASE ORDERS TO BE ISSUED BY THE END IMPLEMENTING AGENCIES NAMELY STATE GOVTS. THEY ARE LOCATED IN DIFFERENT STATES OF INDIA.

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

### Price and Completion Schedule- PACKAGE-2 Related Services & CAMC

S.No.	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Qty.	Country of Origin	Delivery Date at place of Final destination	Unit Price	Total Price per Service (Col.3*6)
1	Installation and Commissioning Charges and training charges if any(Accessible Area)	560				
2	Installation and commissioning Charges and training charges if any(In-Accessible Areas)	100				
3	Installation and commissioning charges and training charges if any(Island Areas)	15				
4	Additional site visits for accessible areas	560				
5	Additional site visits for in-accessible areas	100				
6	Additional site visits for island areas	15				
7	CAMC for the above for two years after expiry of warranty period	675				
8	CAMC for Desktop PC, Display TV, Microphone, Webcam, Ethernet switch and 2 KVA UPS for two years after expiry of warranty period	**				
	*					
	*					
	* Any additional item/subsystem which bidder proposes for smooth functioning of system (Please fill in the blank column)					

Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT XXXX, OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.

**\*\* These items may be ordered by State Govts. from the bidder or from other sources. So unit cost may be specified. This cost will not be considered for evaluation.**

Note: BIDDERS MAY NOTE THAT THE REQUIRED QUANTITY INDICATED ABOVE ARE TENTATIVE ONLY. ITEMS IN PACKAGE -2 WILL FURTHER BE SPECIFIED IN THE INDIVIDUAL PURCHASE ORDERS TO BE ISSUED BY THE END IMPLEMENTING AGENCIES NAMELY STATE GOVTS. THEY ARE LOCATED IN DIFFERENT STATES OF INDIA .

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]



**BID SECURITY FORM**

From: (Bidder)

.....  
.....  
.....

To:

Attention: Shri Madhu P. Nair, Executive Director, NIMI  
Address: Post Box No. 3142, CTI Campus,  
          Guindy Industrial Estate, Guindy  
City: Chennai, ZIP Code: 600032  
Telephone: 91-44-22500256

Sir,

1. We have deposited Bid security of Rs..... (Rupees  
..... only)
- (a) Through debit to our credit card No..... issued by ..... valid up  
to.....;
  - (b) Direct debit to our current/savings Account No.....in ..... Bank  
.....Branch on.....;
  - (c) Over the counter payment, the details of which are as follows:
    - (i) <name of the bank> (Name of the branch)...to be  
inserted.....
    - (ii) Method of remittance and its details .....

\_\_\_\_\_  
Signature and Name of Bidder

Date:

*Note: To be completed and submitted / uploaded as a part of the Bid.*

## Bid Security (Bank Guarantee)

*[The Bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]*

\_\_\_\_\_  
*[Bank's Name, and Address of Issuing Branch or Office]*

**Beneficiary:** \_\_\_\_\_ *[Name and Address of Purchaser]*

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

**BID GUARANTEE No.:** \_\_\_\_\_

We have been informed that *[name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of *[name of contract]* under Invitation for Bids No. *[IFB number]* ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *[name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]* (*[amount in words]*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form; or (ii) fails or refuses to furnish the performance security, if required, in accordance with the Instructions to Bidders.

This guarantee will expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful bidder; or (ii) twenty-eight days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

\_\_\_\_\_  
*[signature(s)]*

*Note: To be completed and submitted / uploaded as a part of the Bid.*

## MANUFACTURER'S AUTHORIZATION

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are legally binding on the Manufacturer shall include it in its bid.]*

Date: *[insert date (as day, month and year) of Bid Submission]*  
NCB No.: *[insert number of bidding process]*

To: *[insert complete name of Purchaser]*

### WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract against the above IFB.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm against this IFB.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

**Note: Manufacturer's authorization to be provided for item number 1,2,10 and 34 (of the goods specified in the price schedule) namely antenna system, hub baseband system for interactive channels and IDU of SITs.**

*Note: To be completed and submitted / uploaded as a part of the bid.*

# SECTION V. – ELIGIBLE COUNTRIES

## Public Information Center

### Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement

1. In accordance with Para 1.8 of the Guidelines: Procurement under IBRD Loans and IDA Credits, dated May 2004, the Bank permits firms and individuals from all countries to offer goods, works and services for Bank-financed projects. As an exception, firms of a Country or goods manufactured in a Country may be excluded if:

Para 1.8 (a) (i): as a matter of law or official regulation, the Borrower's Country prohibits commercial relations with that Country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of the Goods or Works required, or

Para 1.8 (a) (ii): by an Act of Compliance with a Decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that Country or any payments to persons or entities in that Country.

2. For the information of borrowers and bidders, at the present time firms, goods and services from the following countries are excluded from this bidding:<sup>6</sup>

(a) With reference to paragraph 1.8 (a) (i) of the Guidelines:

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

(b) With reference to paragraph 1.8 (a) (ii) of the Guidelines:

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

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<sup>6</sup> Any questions regarding this list should be addressed to the Director, Procurement Policy and Services Group, Operational Core Services Network, The World Bank

## **PART 2 - SUPPLY REQUIREMENTS**

## **SECTION VI – SCHEDULE OF REQUIREMENTS**

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## **1.List of Goods and Delivery Schedule**

- Final destination (Project Site): Hub Equipment at NIMI, Chennai; 35 SITs at various locations in India as per Annexure -3 and 5 ROTs , at NIMI, Chennai as per package-1 and 675 SITs as per package-2 . The completion of the project shall be done within 12 months from the date of Purchase order. Vendor to provide delivery schedule in their offer with major milestones like Design review, Dispatch, installation, acceptance etc., as per the below given table
- Indicative time schedule for as given in table

Milestone	Time frame
Order release	T0
Design Review	T0+1 month
Site survey for Hub	T0+2 months
Supply of items at site for Hub	T0+6 months
Installation and commissioning of Hub	T0+8 months
Completion of Acceptance testing of Hub	T0+10 months

- The installation, commissioning and acceptance testing of the ordered SITs & ROTs shall be completed within 2 months after the operation of Hub system

### **Penalty clause:**

#### **Penalty Clause: (Hub & LMS Sub-system)**

1. The down time is 2 (two) days for the Hub. The penalty clause starts immediately after installation and commissioning
2. The faults reported/lodged from the user must be attended and repaired within 2 (two) days from the date of lodging of complaint.
3. For each subsequent day of delay after 2 (two) days from the date of lodging the complaint, 0.2% of quarterly CAMC value per day will be deducted from the bill with ceiling of 10% of quarterly CAMC value.(During warranty period same amount will be deducted from performance security. CAMC quoted for year1 after expiry of warranty will be taken for this purpose)
4. If the delay is due to unforeseen circumstances or on the part of Purchaser side, penalty clause will not be applied.

#### **Penalty Clause (SITs):**

1. The down time is 15 (Fifteen) days for SITs.
2. The faults reported/lodged from the user must be attended and repaired within 15 (Fifteen) days from the date of lodging of complaint.
3. For each subsequent day of delay after 15 (Fifteen) days from the date of lodging the complaint, 0.2 % of quarterly CAMC value per day will be deducted from the bill with ceiling of 10 % of quarterly CAMC value. .(During warranty period same amount will be deducted from performance security. CAMC quoted for year1 after expiry of warranty will be taken for this purpose)

## **2. List of Related Services [ITB Clause 14.6(b)] and Completion**

### **Schedule**

Details provided in price and completion schedule



### 3. Technical Specifications

1. The Ministry of Skill Development and Entrepreneurship (MSDE) has received financing from the World Bank toward the cost of the ‘Externally Aided Project for Reforms & Improvement in Vocational Training Services rendered by the Central and State Governments (Vocational Training Improvement Project)’ and intends to apply part of the proceeds toward payments under the contract for establishing a Distance Learning network using satellite Communication (SATCOM).
2. The project aims at making distance learning operational across 31 Centrally Financed Institutes (CFIs) and 675 Govt. ITIs located at district headquarters and shall be financed from the cost of funds under the ‘Vocational Training Improvement Project’. The operationalization process involves:
3. The proposed Satcom network Hub is to be established at National Instructional Media Institute (NIMI), Chennai (Purchaser). The network is to be configured using ~9 M Ku-Band Hub, Studio/Teaching end with initially with three interactive channels and provision for uplinking two broadcast channels. NIMI is ‘hiring a Turnkey Contractor for
  - I. Establishing and operationalizing a VSAT based hub for facilitating the establishment of ‘a satellite based distance learning network’ for vocational training.
  - II. The contractor shall provide on-site comprehensive maintenance, resident engineer support and other services
  - III. The turnkey contractor shall also support in establishing 35 SITs and 5 ROTs and integration of the SIT and ROT across country with the centralized hub
4. **The National Instructional Media Institute (NIMI) now invites electronic Bids from eligible Bidders for establishing, operationalizing and maintenance of a VSAT based hub for facilitating the establishment of ‘a satellite based distance learning network’ for vocational training**
5. The bidder shall be hired for a period of 3 years (installation of hub plus mandatory AMC for initial 3 years). The interactive and broadcast channels may have same or different programs. The ATIs will also function as teaching ends in addition to the NIMI. Thus, the Satcom network should also support teaching from all ATIs in time shared manner. In this configuration, the remote SITs at ATIs will function as TE (teaching from remote terminals). In case teaching is from a remote terminal at an ATI, appropriate return channel (tentatively two 1Msps RL carriers) will be made available for this purpose. As an alternative arrangement, ATIs may also be connected to Ku-band Hub located at NIMI through, fiber optic/leased line (from any service provider) for bringing the programme/content generated from ATIs to Hub. This terrestrial connectivity requirement is NOT part of this tender. However, the network should have provision to accept terrestrial network traffic (Appropriate interfacing, routing arrangement etc. should be created).

**Interactive Channel:** Wherever interactivity is required, it is proposed to provide VSAT connectivity (Satellite Interactive Terminals – SITs) from Hub to that particular

ATIs/ITIs. These SITs shall be in Ku-Band and will be able to have Audio & Video and other file sharing interaction with teaching end/Studio. The ATIs will be configured with 2.4M antenna to support higher data rate return channels. Rest of the SITs will be configured with 1.2M antennas. The SITs should also have Voice over IP telephone connectivity. The necessary hardware/software for VoIP shall be part of the solution.

**Non-Interactive/Broadcast Channel:** There will be separate broadcast channels (multiple channels over single carrier) in the network which will require DTH type Receive only Terminals (ROTs) for programme reception at various places. These ROTs shall be in Ku-Band (0.9M) and will be able to receive programmes transmitted from Teaching end/Studio (DVB S2 compliant DTH type reception). Initially, the hardware at the Hub should support two video broadcast channels. The system should be scalable to increase the numbers (by taking 250 Watt BUC into consideration).

6. Interactive channels to be established at 31 Centrally Financed Institutions (CFIs) and 675 Industrial Training Institute (ITIs) at district headquarters with the facility of audio and video interaction with the Hub. **Initially in phase I , It is planned to deploy at 35 SITs (countrywide) and 5 ROTs for reception/monitoring. In phase II , A total 675 Govt. ITIs are planned to be taken up by the respective State/U.T Govt after successful establishment of said network . Thus network should be scalable with scope of expansion to potential private ITIs also.**

Overall Configuration of Network: The overall network overview is shown in

7. Figure 1

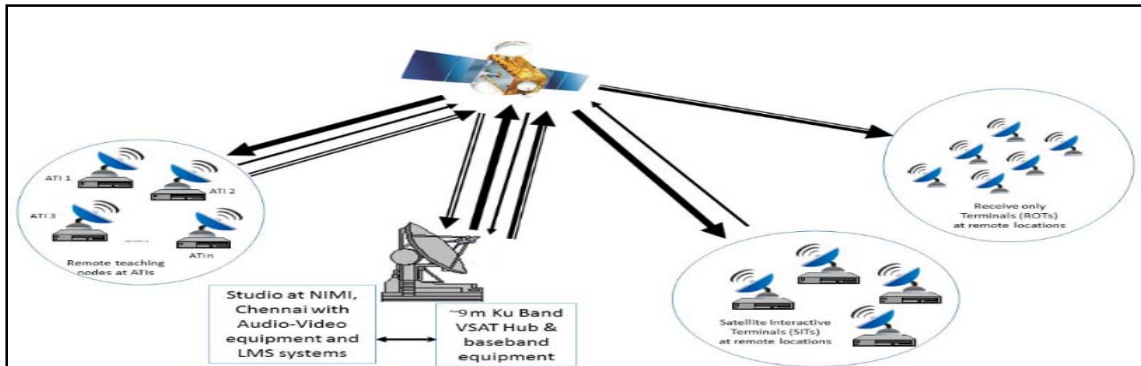


Figure 1: Overall network configuration

The indicative block diagrams of Hub, monitoring setup and ROT broadcast chain is as shown in Figure 2, Figure 3, Figure 4 respectively.

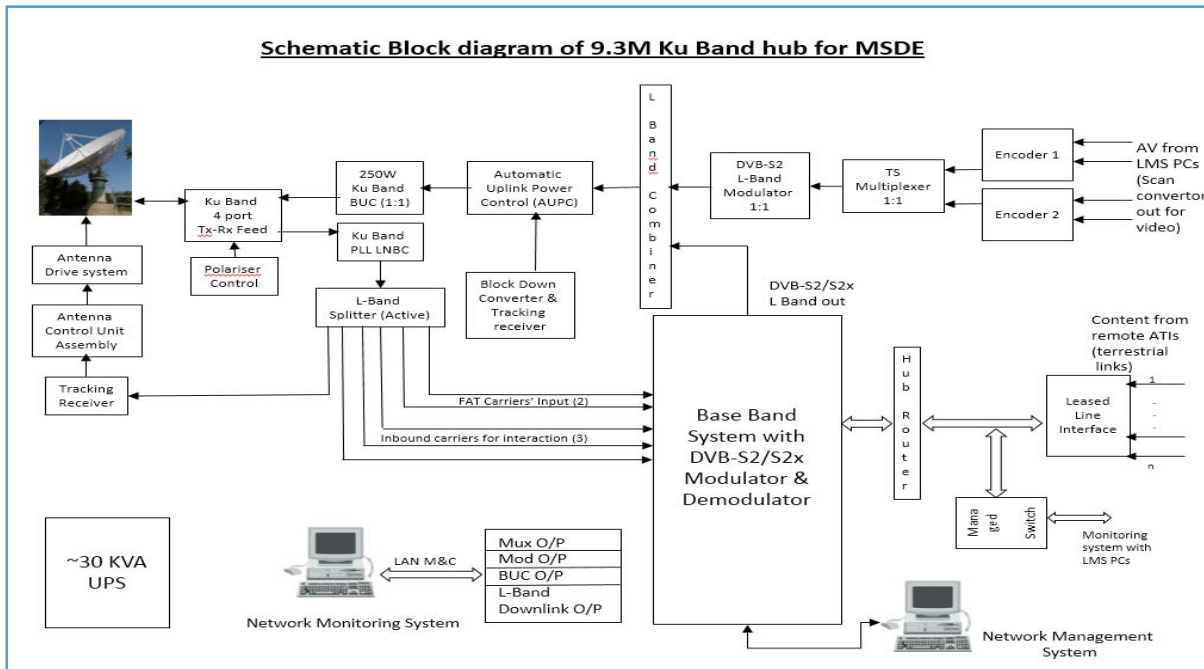


Figure 2: Indicative Hub block Diagram

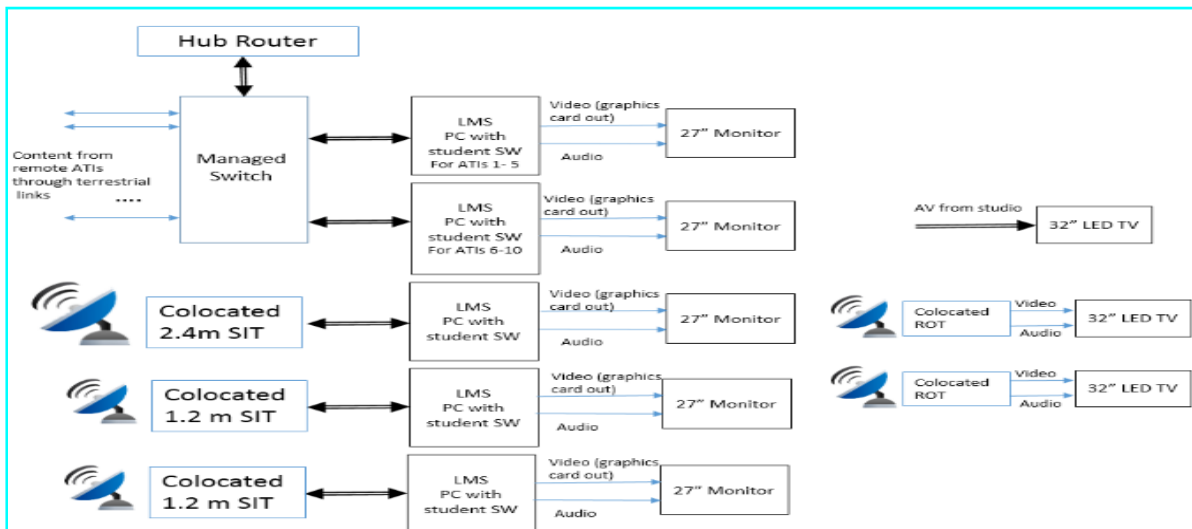


Figure 3: Indicative Monitoring Setup

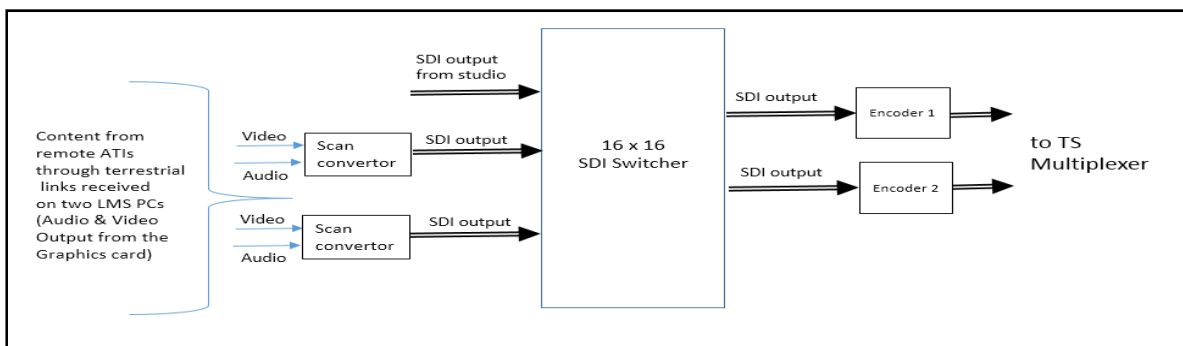


Figure 4: Indicative ROT Broadcast Inputs

## General Requirements:

- i. Bidder must have office and infrastructure in India, to technically support Hub, field operations and maintenance activities in timely manner. **Bidders desirably should have support centres distributed in different parts of India.**
- ii. Provide complete system engineering calculations (Link calculations) using satellite transponder parameters listed in 16.1 of key parameters-1. Technical Specifications, sizing of BUC, required Ku bandwidth calculations along with proposed hardware & software to meet the requirements as projected in this BID Document.
- iii. Provide complete Hub configuration diagram for both interactive and non-interactive networks including level diagram.
- iv. Bidder shall submit the tentative layout plan and drawings to purchaser for considerations as part of the Design Review (DR).
- v. Provide point to point compliance to all Requirements, Scope of work, guidelines/Terms & Conditions & Specifications of the BID Document. Bidder shall explicitly state “Compliance” or “Non-Compliance” or “Noted” against each line of the respective points.
- vi. The compliance statement should be supported by documentation consisting of data sheets, brochure, calculations, literature or OEM compliance etc. Deviations if any, shall be mentioned and provide justification how these deviations will not hamper the overall performance of the system.
- vii. Relevant details of each sub-system like make & model number, detailed specifications, test data sheet etc. should be provided.
- viii. Provide complete project implementation plan covering all major milestones, operations and maintenance philosophy, including obsolescence management.
- ix. Provide operation and maintenance plan for up to 8 years along with documentation from the OEMs for support for the major systems products up to 8 years.
- x. Provide requirement of Space for Antenna and other Hub equipment, electrical supply, electrical earthing (prepare site readiness document for Hub, SIT & ROT)
- xi. Submit a comprehensive list of deliverables along with relevant specifications and data sheets
- xii. Bidder to understand the requirements and scope of work (**bidder shall visit the premises of NIMI, Chennai** to ascertain the feasibility of establishment of 9m antenna).
- xiii. Attend pre bid meeting at New Delhi and seek all technical and commercial clarifications.
- xiv. Following the pre bid meetings, purchaser may modify requirements in the BID documents if needed. Appropriate corrigendum shall be issued by the purchaser if required.

- xv. Bidders may be invited, if required to make technical presentation on the offer submitted to a Technical Committee and also provide clarification on any matter related to offer.
- xvi. The bidder is required to provide turnkey solution which would meet the all requirements as described in the BDS.
- xvii. After the installation of VSATs, the personnel deployed (competent) by the Bidder at Hub 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 NIMI officials to run network.
- xviii. The Bidder shall maintain a system for fault reporting and their management ensuring information flow mechanism to NIMI. 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.

## **8. Key specifications:**

- i. This network comprises of four elements: (1) Network Hub (2) Teaching end/Studio at Hub (3) Satellite Interactive Terminals (SITs) & (4) Receive only Terminals (ROTs-DTH types).
- ii) The studio at NIMI, Chennai shall be the primary Teaching end for the network. In case, the training has to be conducted from any of the ATIs, those ATIs will be connected to the network via Satcom (return carrier) or through leased line from any service provider for connecting ATIs to Hub.
- iii) The interactive network will be configured in star topology. The Transmission from Hub shall be received by all the SITs in the network (through outbound). The interaction from the SITs deployed at ITIs will be through inbound carrier/carriers. The teaching /training shall be in structured manner using a Learning Management System(LMS) software.
- iv) **Ku-Band Hub with ~9.0 Meters Antenna:** The Hub is VSAT based system and functions in TDM/MFTDMA mode. It will include 9 M Ku-Band Antenna system, RF and Baseband equipment and a studio. The audio/video from studio is transmitted through the Hub via outbound (DVB S2/S2x). The inbound signal from the SITs will be received at the Hub & routed to the studio as a return audio/video from student/remote end. Separate return carriers may be used for connection to remote (away from Hub) studios (at ATIs).
- v) **Typical Teaching end:** The Teaching end/studio is normally configured with Audio/Video equipment (Camera & Sound Systems), a high end LMS server and a Teacher/Video capture/Return video multicast PC. The teacher at the studio interacts with

the remotes/SITs through the Learning Management System (LMS). The LMS server will hold the database of the entire network and exchanges video & audio information from Teacher/Video capture/Return video multicast PC with the remote SIT PC. The teacher at the Teaching end/studio will utilize LMS for delivering a lecture/presentation. The teacher component of LMS should provide the monitoring and control of remote SITs logged & will have option to select any one of the online classrooms for live interaction. Live interaction between teacher at studio & student of any remote classrooms is seen & heard live at all remote classrooms.

**vi) Satellite Interactive Terminals (SITs):** The SITs are VSAT based Ku-Band terminals consisting of 2.4M/1.2m antenna, RF part (BUC, PLL-LNBC & Satellite modem (IDU)) and other peripherals. The classrooms/remotes are normally configured with student end LMS, Webcam, microphone, Display system (LED TV through HDMI) etc. 2KVA online UPS to ensure an uninterrupted supply to SITs. When the Teacher node selects the SIT for interaction, the student component of LMS enables the audio video transmission from the SIT to hub. The combined interaction will be retransmitted to all the SITs. The SITs at the ATIs are proposed with 2.4m antenna to support higher data rate so that these could also function as teaching ends

**vii) Receive only Terminals (ROTs):** The ROTs shall consist of a 0.9M antenna, LNBF, Set Top Box and display system (LED TV connected through HDMI). These terminals should receive the programmes transmitted from the hub (DTH type transmission) and tunable to different channels.

**9. Key requirements:**

**Note: In case of deviation from compliance, the following treatment shall be considered:**

- **Partial deviation: Purchaser to decide (can be tolerated, if the bidder is compensating for the same through better quality products against other requirements- to be mentioned and highlighted in the remarks column by the bidder)**
- **Full deviation: Purchaser to decide (based on the impact of the deviation on the overall functionality of the system)**

Sr. No.	Requirements	Compliance Yes/No	Remarks (If any)
1	Establishing, operationalizing and maintenance of VSAT Hub, SITs (student Ends) and ROTs for ‘a satellite based distance learning network for vocational training’		
2	Hub to be supplied & installed at NIMI, Chennai (Purchaser). Site preparations should be done.		
3	SITs are to be supplied & installed at remote sites.		
4	Limited number of ROTs to be supplied to NIMI Chennai and few installed in proximity.		
5	The entire solution should have onsite warranty		

Sr. No.	Requirements	Compliance Yes/No	Remarks (If any)
6	The operations of the HUB should also be proposed as part of solution		
7	Comprehensive Maintenance (CAMC) of the HUB should be offered in the solution.		
8	Comprehensive Maintenance (CAMC) of the SITs should be offered in the solution.		
9	It should be possible to interface ATI & HUB through a IP based leased line or OFC link		
10	Offered solution should contain obsolescence plan		
11	Acceptance testing of HUB, SIT & ROT will be done after installation.		
12	Arrangement of Regulatory clearances/ licenses for the proposed solution.		
13	Operations training during installation phase and after I&C activities should be provided by the bidder		
14	Applicable documents & tests certificates should be provided by the bidder		
15	Functional Requirements		
15.1	<p>Hub will provide connectivity initially to around 35 SITs &amp; 5 ROTs and this figure can grow to 1000 or more. The System shall operate on Ku- Band Transponder with national beam coverage on an Indian Satellite having typical parameters as given below.</p> <p>Satellite parameters : (Typically)</p> <p>Satellite : INSAT-4CR</p> <p>Satellite EIRP : 51.5 dBW</p> <p>SFD : -96 dBW/m<sup>2</sup> at 0 dB</p> <p>Satellite G/T : +3 dB/K</p> <p>Input Back off : 4 dB</p> <p>Output Back off : 2.5 dB</p> <p>On Board Attenuation : 8 dB</p>		
15.2	<p>The forward link (Outbound) from the hub will have single outbound for interactive channels and single outbound for ROT channels.</p> <p>It is preferred that the system engineering should consider the BUC rating as 250 Watts. However, if necessary, bidder may consider lower/higher power BUC with due justification.</p> <p>Bidder should also factor in the output backoff of the BUC in view of multiple carriers operation and AUPC margin of approximately 8 dB.</p>		

Sr. No.	Requirements	Compliance Yes/No	Remarks (If any)
15.3	The teacher must be able to deliver lecture in his Studio / Teaching End with modern teaching aids such as animated clips and slides etc. It should also be possible to transmit prerecorded programs through DVD player etc. The students must be able to receive the lectures transmitted as above in their multimedia PC connected to display system (TV).		
16	Operational Requirements		
16.1	The system must be capable of operating in Ku-Band with appropriate outdoor and indoor units at Hub station as well as remote sites (SITs & ROTs).		
16.2	The operational life of complete Hub System (including drives, motors, bearings and other moving parts of the antenna & control system) is expected to be of minimum 8 years. Bidder should provide justification in the proposal that the complete system as a whole would sustain operational life of minimum 8 years.		

### 10.Detailed Scope of Work

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
1	The implementation of the project includes system engineering, supply of hardware and software, integration, commissioning and acceptance testing of Hub (earth station), SITs & limited number of ROTs on turn-key basis.		
2	Prepare a detailed project document containing block schematic diagram of complete system, system engineering details, selection of VSAT technology for Hub & SIT, ROT, operation details, monitoring, operation and maintenance considerations, bandwidth requirement & link calculation, etc. The document should also contain drawing of 9m Ku-band Antenna assembly and support structure, rack dimension, housing details, cabinet for SIT & ROT and site readiness requirement.		
3	Carry out site preparation and civil work for antenna foundation (pedestal) and other construction work (cabling, ducting etc.) as per <b>Annexure-2. Guideline for Hub, SIT &amp; ROT Installation, Integration and Commissioning.</b> Carryout Noise Survey at the hub in Ku-band frequencies before the start of the work and submit report		



Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
4	<p>Obtaining regulatory clearances/licenses, if necessary, shall be responsibility of the purchaser.</p> <p>However, bidder shall coordinate with purchaser, prepare required documents &amp; interface with Regulatory bodies (if required) for this purpose.</p> <p>Necessary certificates for the 9m antenna with regards to radiation pattern to be obtained from NOCC by the bidder.</p>		
5	<p>Supply 9m Ku band Hub including baseband system (Earth station) with redundant RF chain configuration as indicated in Figure 2: Indicative Hub block Diagram</p>		
6	<p>11 Ku-band SITs with 2.4m antenna and rest of the SITs with 1.2M antennas to be deployed across country, site details are given in Annexure-3. (payment on pro-rata basis)</p>		
7	<p>Bidder to provide the rates for the elements of ROT like 0.9m Antenna, LNBF, Set Top Box (STB), Display (~42" LED TV with HDMI cable)</p>		
8	<p>Install, configure and maintain LMS (Purchaser's) software. Purchaser will support the Bidder for maintenance of LMS in case it is arranged by the purchaser.</p>		
9	<p>Safe transportation / delivery of Hub elements to NIMI Chennai and SITs to respective locations rests with the bidder.</p> <p>Limited number of ROTs may be purchased along with rest of the equipment and should be supplied by the bidder to the purchaser.</p> <p>Approximately 5 numbers of ROTs may be installed in the proximity of NIMI, Chennai for Test &amp; Monitoring Purpose. Site details will be furnished subsequently. (payment will be done on pro-rata basis)</p> <p>Note: Bidder may coordinate with purchaser for requirement of related documents/Authorizations if any.</p>		
10	<p>Bidder shall coordinate with purchaser (NIMI) and other stakeholders in obtaining the road permit for sites, wherever required.</p>		
11	<p>After confirmation on site readiness, dispatch of equipment at site (Hub, SIT &amp; ROT sites).</p>		
12	<p>Bidder shall also provide list of all deliverables including cables, connectors, wave-guide, patch panel, software, operating manuals, etc. in their part-1 of proposal.</p>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
13	Supply documentation, relevant OEM certificates (For items 1,2,10 & 34 of deliverables), performance reports of all sub-systems and manuals in hard and soft copies.		
14	Subsequent to the Order Placement the selected Bidder to prepare and submit design review (DR) document, which should contain all necessary details describing the solution being implemented to the purchaser. This should be followed by a presentation to the technical committee formed by the purchaser. DR should also cover requirements related to civil, electrical, load for UPS and generators, air-conditioning, antenna cable lengths, analysis for antenna assembly and support structure against RF specifications, rack dimensions, housing details etc. DR would be conducted tentatively within 1 month of the Order placement. All points raised by the technical committee should be duly closed by the Bidder without any cost implication.		
15	Installation and Commissioning of HUB, SIT & ROT should be done by the bidder following the guidelines given in <b>Annexure-2. Guideline for Hub, SIT &amp; ROT Installation, Integration and Commissioning</b>		
16	Prepare, discuss and submit Acceptance Test Plan (ATP) document for Hub, SIT & ROT to purchaser, duly approved by purchaser, within three months of the placement of the order. <ul style="list-style-type: none"> <li>• Bidder shall provide a brief description of test method of evaluation and block diagram of the intended test configuration. Test procedure shall also include a list of equipment needed.</li> <li>• Test and measurement equipment to be arranged by bidder during installation and ATP.</li> <li>• The ATP document should also include test cases for following: <ul style="list-style-type: none"> <li>- Physical inspection of items delivered.</li> <li>- Testing of antenna, control &amp; tracking system.</li> <li>- Testing of integrated transmit chain.</li> <li>- Testing of integrated receive chain.</li> <li>- Final acceptance testing of Hub in Satellite link.</li> <li>- Testing of limited number of remote SITs with Hub</li> <li>- Testing of limited number of remote ROTs with Hub</li> <li>- End to End functional testing of complete Network with co-located SITs and ROTs.</li> <li>- After Acceptance &amp; testing of Hub and co-located SITs,</li> </ul> </li> </ul>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
	<p>ROT's, go-ahead will be given for installation &amp; commissioning of other SITs &amp; ROTs.</p> <p>All Functional and Operational requirements should be met by the proposed solution and demonstrated during ATP.</p>		
17	<p>The Bidder is required to impart operational training to the identified personnel (by purchaser) to operate Hub, LMS sub-system, SITs &amp; ROTs.</p> <p>The training shall be imparted during Installation phase &amp; also after completion of ATP.</p> <p>The bidder should prepare &amp; provide operations and troubleshooting manual for the Hub, LMS sub-system, SITs &amp; ROTs to the respective users.</p> <p>The manual shall also contain Do's and Don'ts for the operations of the Hub, LMS sub-system, SITs &amp; ROTs.</p> <p>The training content &amp; schedule must be planned in consultation and to the satisfaction of the purchaser.</p> <p>Specifically, the training should also include Antenna pointing, ensuring network connectivity, LMS operations, preventive Maintenance activities etc.</p>		
18	The bidder has to provide an on-site warranty for 1 year		
19	Hub operations : Bidder has to quote for operations of hub for 3 years		
20	<ul style="list-style-type: none"> <li>• The manpower to be deputed for the operations of Hub shall be minimum one qualified engineer (B.E)/Diploma with relevant experience. Bio-Data and two copies of photograph with Police clearance certificate before deputing the personnel to operate the Hub shall be submitted to Purchaser (NIMI) for arranging necessary entry passes.</li> <li>• The Hub engineers shall be equipped with mobiles and their contact details shall be given to Purchaser.</li> <li>• The engineer should be experienced and well trained in the operations of the VSAT Hub and should be capable of managing the network.</li> <li>• During the installation and commissioning of the network, the Hub is to be operated from 8:00 AM to 8:00 PM on all working days to provide transmission support for I&amp;C of SITs &amp; ROTs. (In concurrence with Purchaser)</li> <li>• During regular transmissions / operations of the network, the timings for the Hub operations will be mutually agreed by bidder &amp; Purchaser.(9AM to 6 PM Monday to Saturday)</li> </ul>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
	<ul style="list-style-type: none"> <li>• The Hub engineers shall attend Hub operations in case of exigencies, within a short notice at any given time.</li> <li>• The engineers deployed shall attend Hub operations on their own transport arrangement and no conveyance amount shall be paid by purchaser.</li> <li>• The engineers deputed for the Hub operations shall not be changed without prior approval from Purchaser.</li> <li>• In case of any emergency due to which the Hub engineer is unable to attend the Hub, the Bidder will be responsible for making suitable standby arrangement.</li> <li>• If the engineers deputed are not found suitable by Purchaser, Bidder will have to replace the engineers as directed in reasonable time.</li> <li>• The Hub operations shall include typical activities like:               <ol style="list-style-type: none"> <li>1) Periodically maintain and upgrade NMS and LMS login records in order to monitor the operational status of the Hub &amp; SITs in the network.</li> <li>2) To maintain operation logbook on day-to-day basis including attendance reports and submit operation report on monthly basis to Purchaser.</li> <li>3) Provide technical support to coordinators of remote SITs.</li> <li>4) Monitor the status of the operational SITs</li> <li>5) Troubleshoot the nonfunctional SITs</li> <li>6) Carryout periodic preventive/ minor-breakdown related troubleshooting and corrective activities.</li> <li>7) Assist Purchaser to maintain inventory of the Hub system &amp; indicate requirement of consumables in timely manner.</li> <li>8) Assist the coordinators of nonfunctional SITs to log in the complaints at Help desk</li> <li>9) The Hub Engineers and SIT maintenance teams have to operate and maintain the LMS systems in coordination with the purchaser.</li> </ol> </li> </ul>		
21	<p>Comprehensive maintenance offer for Hub should be of total 3 years. First year should not be charged in view of the standard warranty.</p> <p>The term “comprehensive” means that the Bidder will be responsible for replacement/repair of any faulty equipment.</p> <p><b>Preventive Maintenance Activities</b></p> <ul style="list-style-type: none"> <li>• To be carried out on quarterly basis (every three months).</li> <li>• Equipment cleaning: Use of blower, cleaning fluids wherever necessary</li> <li>• Greasing and/or oil change of Antenna subsystems</li> </ul>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
	<p>whenever necessary.</p> <ul style="list-style-type: none"> <li>• Repair/replacement of damaged/loose cables</li> <li>• Antenna System optimization of HUB, Co-located SIT's and ROTs.</li> <li>• Technical parameters records: During PMI and corrective maintenance, the parameters observed to be noted &amp; maintained as records</li> <li>• Regular Antivirus scans and relevant updates in Hub &amp; collocated SIT computers.</li> <li>• PMI and Corrective maintenance records: To be maintained on regular basis (Report generation monthly) To be signed by Hub in charge The copy of same to be given to Purchaser.</li> </ul> <p><b>Breakdown Maintenance Activities</b></p> <ul style="list-style-type: none"> <li>• 10AM to 6PM Monday to Saturday helpdesk Remote technical support for smooth HUB &amp; co-located SIT operations and complaints logging.</li> <li>• Fault reported is to be attended and issue resolved/sub-system replaced within 48 Hours</li> <li>• Repairs of the faulty items/sub-systems of Hub</li> <li>• Safe To &amp; Fro movement of the faulty Hub's items/sub-systems</li> <li>• Replacement of Faulty items systems on temporary arrangement. (Till the items/ Sub-Systems are repaired / replacement.</li> <li>• The items/ sub-systems arranged by bidder on temporary basis to keep the Hub / co-located SIT operational shall be replaced within 3 to 4 months by the repaired original or replaced by same make/model no or its equivalent</li> <li>• Purchaser will have the right of short closure of Operations/CAMC of HUB. Payment for CAMC will be done on quarterly basis.</li> <li>• Certification: A certificate of restoration shall be obtained from Purchaser after completing breakdown maintenance.</li> </ul>		
22	<p>Comprehensive maintenance offer for 35 SITs should be of total 3 years. First year should not be charged in view of the standard warranty..</p> <p>The number of SITs successfully commissioned on the first date of the given month will be taken as start of CAMC. Payment for the same shall be done quarterly on pro-rata basis.</p> <p>Bidder to provide quotation for additional visits, for accessible, inaccessible and island areas.</p>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
	<p><b>SIT CAMC activities</b></p> <p><u>Preventive Maintenance Activity</u></p> <ul style="list-style-type: none"> <li>• Post installation, during the CAMC period, bidder has to visit the SIT locations once every 6 months.</li> <li>• To carryout Preventive Maintenance (PM) as recommended by the OEM of the equipment.</li> <li>• To carryout routine cleaning as per recommendation of manufacturer which includes cleaning of Antenna, Feed, Mount assembly, IDU and related accessories.</li> <li>• To align antenna if it has moves from marked position.</li> <li>• Any damaged cable should be immediately replaced.</li> <li>• All the screws and fasteners of the VSAT (Hub and SIT Antennas) systems must be checked.</li> <li>• Greasing of VSAT terminals (SIT Antennas) as and when required.</li> <li>• Maintenance of UPS/Battery.</li> <li>• The Vendor will note configuration/status parameters and this shall be enclosed in the report. Any problem/deviations/degradations during Preventive Maintenance to be reported and corrective actions to be applied.</li> </ul> <p><u>Breakdown Maintenance Activity</u></p> <ul style="list-style-type: none"> <li>• 10 AM to 6 PM Monday to Saturday helpdesk Remote technical support for smooth operations of SIT and complaints logging.</li> <li>• Fault reported is to be attended and issue resolved/sub-system replaced within 15 (Fifteen) days</li> <li>• Repairs of the faulty items/sub-systems of SIT</li> <li>• Safe To &amp; Fro movement of the faulty SIT items/sub-systems</li> <li>• Replacement of Faulty items systems on temporary arrangement. (Till the items/ Sub-Systems are repaired / replacement.</li> <li>• The items/ sub-systems arranged by bidder on temporary basis to keep the SIT operational shall be replaced within 3 to 4 months by the repaired original or replaced by same make/model no or its equivalent</li> </ul> <p>Purchaser will have the right of short closure of Operations/CAMC of SITs, addition/deletion of SITs during currency of the CAMC contract. Payment will be done on pro-rata basis.</p> <p>Certification: A certificate of restoration shall be obtained from local SIT coordinator supplemented by photographs,</p>		

Sr. No	Scope of Work	Compliance Yes/No	Remarks (If any)
	if any, after completing breakdown maintenance. The CAMC shall include items/subsystems mentioned in 3.1 to 3.12.		
23	Bidder shall provide technology & spare support for hardware for a period of minimum 8 years. bidder should provide an obsolescence management plan in the proposal (Part-1 Technical Bid) for a period of minimum 8 years.		

- 11.** The National Instructional Media Institute (NIMI)<sup>7</sup> has been appointed by the MSDE as the implementing agency for this project. In order to operationalize the distance learning network using satellite technology,
- 12.** “Summary of Technical Specifications. The Goods and Related Services (specified in the price schedule forms) shall comply with following Technical Specifications and Standards:

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<sup>7</sup> \*NIMI is a demand driven autonomous institute under Skill Development & Entrepreneurship, Government of India, working towards achieving international standards. NIMI supports occupational and individual development of potential workforce from organized and unorganized sectors through systematic development, production dissemination of Instructional Media Packages (IMP’s), training on Instructional Media and development of Question Bank. NIMI values close interaction with National/State Governments, industries, institutes and organizations involved in Vocational Training

Bidder should quote for the deliverable items mentioned in Price Schedule Forms. Overall network feature is detailed Annexure-1. Bidder may quote for any additional sub-systems/items to meet the overall Network functioning as detailed.

The vendor shall provide the list of deliverables for hub, SITs & ROTs, with prices. Bidder should provide the detailed breakup of cost estimates for each item mentioned in the deliverable.

S.No.	DELIVERABLE ITEMS	Details as in	Quantity (Main + Spare/ Redundant)	Unit Rate	Total
	<b>HUB System</b>				
1	~9m Ku band antenna with mount	2.1	01		
2	Ku-band four (4) port linearly polarized feed assembly	2.2	01		
3	Antenna controller with auto tracking system	2.3	01		
4	Automatic Uplink Power Control (AUPC) system	2.4	01		
5	Ku Band BUC	2.5	01 + 01		
6	Ku band PLL LNB	2.6	02 + 01		
7	L-Band Modulator (For DTH broadcast chain)	2.7	01 + 01		
8	L band splitter	2.8	01 + 01		
9	L-Band Combiner	2.9	01 +01		
10	Hub Baseband System for interactive channel	2.10	01 (Lot)		
11	LMS Server	2.11	11 +01		
12	LMS Teacher PC	2.12	11+01		
13	48 port 1 GBPS managed Layer-3, switch to perform source NAT for interconnecting ATIs IP based lease line connection to Hub router	2.13	01		
14	VoIP system at Hub	2.14	01 (Lot)		
15	Minimum 16X16 channel SDI/ASI routing switcher	2.15	01		
16	SD & HD capable Encoder with interfaces	2.16	02		
17	Multiplexer Unit	2.17	01 + 01		
18	LMS PC for terrestrial login for Scan conversion	2.18/3.6	02		
19	Scan Convertor	2.18	02 + 01		
20	UPS and batteries for minimum 1 hour backup for hub	2.19	01		
21	Generator for Hub	2.19	1		



22	Monitoring System Configuration	2.20	1 (Lot)		
23	L-Band Spectrum Analyzer	2.21	01		
24	Power Meter	2.22	01		
25	10 MHz Reference Source		01 + 01		
26	Compatible Full duplex L-Band to optical convertors/transreceivers		02 + 02		
27	Cost of critical spares/consumables suggested by Bidder (Cost breakup of each item to be given)		Items, quantity and its cost		
28	Any other costs such as integration, fabrication, testing, etc. which are not reflected above, towards realization of Network under the scope of BID Document		Items, quantity and its cost		
29	Any other subsystem(s) or Item(s) proposed by Bidder to meet the requirement		Items, quantity and its cost		
	<b>SIT System</b>				
30	1.2m Ku band Antenna with mount and feed	3.1	24		
31	2.4m Ku band Antenna with mount and feed	3.1	11		
32	PLL LNB	3.2	35		
33	BUC (4W)	3.3	35		
34	Transmit receive RF Cable	3.4	35		
35	IDU	3.5	35		
36	Desktop PC	3.6	35		
37	Microphone	3.7	35		
38	Webcam	3.8	35		
39	Ethernet Switch	3.9	35		
40	VOIP System at SIT	3.10	35		
41	Display TV (~42")	3.11	35		
42	UPS (2KVA)and batteries for minimum 1 hr. backup for SIT	3.12	35		
43	Earthing at SIT		35		
<b>ROT Systems</b>					
44	0.9m Antenna	4.0	5		
45	Ku-Band Digital LNBF	4.0	5		
46	IFL Cable	4.0	5		
47	Digital set top box DVB-S2 Satellite Receiver	4.0	5		

48	Choice of set top box with recording facility	4.0	5		
49	~42" display TV	4.0	5		
50	Any additional item/subsystem which bidder proposes for smooth functioning of system				
51	<b>HUB SYSTEM</b> Site preparation and civil work for antenna foundation (pedestal). Any other civil or related work for antenna installation if required should be detailed with price breakup. Preferably antenna may be mounted on pedestal of suitable height above ground. Site preparation should include noise survey also. Price breakup for noise survey may be included.				
52	Installation & commissioning charge for Hub (inclusive of training charges, if any)				
53	Cost of Hub operation for first 3 years <i>Year 1</i> <i>Year 2</i> <i>Year 3</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>				
54	SIT System Installation and commissioning charges for SIT (35 SITs) (inclusive of training charges, if any) (Accessible/In-Accessible/Island areas)				
55	Installation and commissioning charges for ROT (5 ROT) and training charges if any				
56	Cost of Comprehensive Annual Maintenance Contract: Comprehensive maintenance for Hub for 3 years on yearly basis; <i>Year 1: First year after expiry of warranty</i> <i>Year 2: Second year after expiry of 1 year AMC</i> <i>Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>				
57	CAMC for SIT 35 Nos. Comprehensive maintenance for 3 years on yearly basis. <i>Year 1: first year after expiry of warranty.</i> <i>Year 2: second year after expiry of 1 year</i>				

	<i>AMC Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>				
	<b>ROT Systems</b>				
58	CAMC for ROT 5 Nos. Comprehensive maintenance for 3 years on yearly basis. Year 1: first year after expiry of warranty. Year 2: second year after expiry of 1 year <i>AMC Provided that the service shall not relieve the supplier of any warranty obligation under this contract</i>				
59	Framework Agreement for additional SITs		As Under		
59.1	1.2m Ku-Band Antenna with mount and feed	3.1	675		
59.2	PLL LNB	3.2	675		
59.3	BUC (4 Watt)	3.3	675		
59.4	Transmit Receive IF Cable	3.4	675		
59.5	IDU	3.5	675		
59.6	VOIP System	3.10	675		
59.7	Installation and Commissioning charges and training charges if any(Accessible Areas)		560		
59.8	Installation and commissioning charges and training charges if any (In-Accessible Areas)		100		
59.9	Installation and Commissioning charges and training charges if any (Island Areas)		15		
59.10	Additional site visits for accessible areas		560		
59.11	Additional site visits for in-accessible areas		100		
59.12	Additional site visits for island areas		15		
59.13	CAMC for the above for two years after the expiry of warranty		675		
60	Any additional item/subsystem which the bidder proposes for smooth functioning of the system				
61	Desk Top PC	3.6	*		
62	Microphone	3.7	*		
63	Webcam	3.8	*		
64	Ethernet Switch	3.9	*		
65	Display TV(~42")	3.11	*		

66	2 KVA UPS and batteries with 1hr backup	3.12	*		
67	CAMC for items 61 to 66 for 2 years after the expiry of warranty		*		

Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT XXXX, OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.

\*These items may be ordered by State Govts. from the bidder or from other sources. So unit cost may be specified. This cost will not be considered for evaluation.

Note: BIDDERS MAY NOTE THAT THE REQUIRED QUANTITY INDICATED ABOVE ARE TENTATIVE ONLY. ITEMS IN PACKAGE -2 WILL FURTHER BE SPECIFIED IN THE INDIVIDUAL PURCHASE ORDERS TO BE ISSUED BY THE END IMPLEMENTING AGENCIES NAMELY STATE GOVTS. THEY ARE LOCATED IN DIFFERENT STATES OF INDIA.

## Annexure – 1. Detailed Technical Specifications and Standards

### 1.0 Overall Network Feature

Sr. No.	Parameters	Description
1	Band of Operation	Ku-Band Uplink: 13.75-14.50 GHz Downlink: 10.95-12.75 GHz
2	Hub capacity to support SITs Initially Scalable up to	100 Nos. 1000 Nos.
3	Capacity of the Hub to support SIT Channels	- 16 return channels capability
4	Capacity of the Hub to support ROT Channels	- 2 Nos.(Bidder to specify the scalability of ROT channels)
5	Services	Audio, Video, Data
6	Protocols	TCP, UDP, RTP, FTP, HTTP, SNMP, ICMP, IGMP
7	Network Management: SNMP compatible	<ul style="list-style-type: none"> <li>• Network Management System (NMS) should carry out the functions like SIT validation and monitoring, allocation of resources to SITs, network configuration &amp; control, frequency management, network monitoring &amp; logging of event, data base (MIB) generation, over the air software upgrade, remote configuration of SIT, remote power of SIT, etc.</li> <li>• NMS shall run on a stable operating system and permit remote authorized user to access and modify all parameters through network interface card.</li> <li>• Required key features of NMS: <ul style="list-style-type: none"> <li>- It is proposed to configure each end node with minimum burst rate so as to</li> </ul> </li> </ul>

	accommodate as many end user terminals (SITs) as possible within the minimum data rate of single in bound. <ul style="list-style-type: none"> <li>- Offered NMS must provide interface to access the inbound burst rate parameter from an application programme which can be set from GUI of NMS.</li> <li>- Offered NMS shall support QOS features:</li> <li>- Creation of VLAN &amp; Overlapping VLAN</li> <li>- Ability to block data traffic based on IP address, TCP port, UDP port, select group of multicast address and services in both forward and return channels.</li> <li>- Traffic BW assignment in terms of percentage of number of packets based on IP address, TCP port, UDP port, select group of multicast address and services.</li> <li>- Prioritization of end user terminal (SIT) traffic-based on IP address, TCP port, UDP port, select group of multicast address &amp; services.</li> <li>- Ability to define set of criteria with respect to each VLAN.</li> <li>- Ability to assign set of parameters from pre-stored setup/files.</li> <li>- Ability to upload configuration to group of end users terminals (SITs) from the Hub as a single command, not by individual commands.</li> <li>- Multicasting from SITs or Hub</li> </ul>	
8	Uplink Power Control	Required in both forward and return links.
9	Performance enhancement PROXY	To be made available by vendor
10	Provision for 10 MHz reference source (like GPS derived etc.) should be available with appropriate amplification for distribution within control room as well to Antenna system.	
11	Link Margin	~ 3dB in clear sky condition

## 2.0 Hub Sub-Systems

This section describes the indicative technical specifications for Hub subsystems.

### 2.1 ~9m Ku band antenna with mount

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
	Antenna Reflector Diameter	9.0m to 9.4m (Since different OEMs have varying standard sizes around 9 m)		
1	Optics Type	Dual Reflector, Cassegrain type		
2	Reflector Material	Precision Formed Aluminum		
3	Frequency (GHz) Rx Tx	10.95-12.75 13.75-14.5		
4	Typical Gain (dBi) Rx Tx	58dBi at 11.3 GHz 60dBi at 14.25 GHz		
5	Minimum G/T Rx	37.0 dB /K @Elv.20 deg. With		

		65K LNA		
6	VSWR Rx Tx	1.3:1 1.3:1		
7	Power Handling Capacity for feed	1 KW continuous		
8	Regulation	ITU-RS.580-6		
9	Antenna pointing Range Course/(Continuous)			
	Azimuth	180 ° in two positions, 120 ° continuous		
	Elevation	5 °- 90 °		
	Polarization	180 ° (±90 °)		
10	Pointing Accuracy	1/5 of 3dB beamwidth		
11	Limit switches	Required for Az, Elevation & polarization.		
<b>ENVIRONMENTAL SPECIFICATIONS:</b>				
12	Wind Speed a) Operational b) Gusting c) Survival	70 km/h 95 km/h 200 km/h		
13	Ambient Temperature	- 5 to 60° C.		
14	Relative Humidity	0% to 100%		
15	Both receive ports should have TRFs/diplexer to achieve Transmit-Receive isolation of 85 dB			
16	The wind load data, foundation data for installation should be included.			
17	The antenna should be Cassegrain type (with sub reflector).			
18	All the support structure must be galvanized			
19	Suitable ladder and platform should be provided for ease of operation in the offered antenna system.			
20	Suitable axis cross over kit should be provided with antenna system.			
21	Antenna System should have hub closeout / covers.			

## 2.2 Ku-band four (4) port linearly polarized feed assembly

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
1	Frequency Range: Receive: Transmit:	10.95-12.75 GHz 13.75-14.50GHz		
2	Polarization	Dual Linear orthogonal		
3	VSWR	1.35 :1		
4	Cross polarization discrimination within 3	≥ 30dB		

	dB beamwidth			
5	Output Ports	Compatible to standard LNB & BUC Flange		
6	Port to port Isolation Tx. to Rx. @ Tx. Freq. Rx. to Tx. @ Rx. Freq.	80 dB 70 dB		
7	Polarization Control	Motorised		

### 2.3 Antenna controller with auto tracking system

Sr. No.	Specifications	Compliance (Yes/No)	Remarks, if any
1	The antenna controller should display the current position of Azimuth, elevation and polarization with relative power reference of the received tracking signal strength.		
2	The antenna controller unit shall be kept in Hub control room, which is at a distance of approximately 100 meters away from Antenna. Antenna controller should be of rack mount type. A unit should also be supplied to control antenna movement locally at the antenna site.		
3	Tracking accuracy should be better than 10% of the receive 3 dB beam		
4	Position Encoding should use Absolute encoders		
5	Position Encoding resolution: 20 bit or more		
6	Absolute Position Display 0.005 Deg.or better		
7	The system should also have manual control( Hand Cranking Provision in case of any failure of motor) flexibility for all the Az , El axes .Should have settable software limit for azimuth and elevation.		
8	Controller should have following control modes – Manual track, step track, Program track, move to look angles, Slew Mode etc.		
9	Antenna Velocity 0.05 degrees/sec to 0.20 degrees /sec		
10	Antenna Acceleration 0.1deg/sec <sup>2</sup>		
11	Preferably Servo motors should be used for Az And El axis movement & control.		
12	Dual Drive Mechanism with counter torque mechanism for Azimuth and ball Screw for Elevation axis will be preferred		

### 2.4 Automatic Uplink Power Control (AUPC) System

Sr. No.	Specifications	Compliance (Yes/No)	Remarks, if any
1	The Uplink Power Control System should be a self-contained unit. It should adjust the strength of uplink signals at L band to compensate for varying weather conditions. Approximately 8 dB uplink control margin should be		

	considered.		
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### 2.5 Antenna Mount Ku-band BUC

Its tentative specs are as below. It should be in configuration of 1:1 redundancy with switching unit. Should also have provision for manual switching.

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
1	Output Frequency	13.75 to 14.50 GHz		
2	Input Frequency	950-1700MHz		
3	Saturated Output Power	250 W		
4	Gain	70 dB minimum		
5	Reference	10 MHz (Internal or External) (Uniform as per system design to be mentioned & justified during DR)		
6	Technology	Gallium Nitride (GaN) based solid state.		
7	Primary Power	100 to 260 VAC $\pm$ 10%, single phase, 47-63 Hz		
8	RF Input Interface	Type N female		
9	RF Output Interface	WR 75 waveguide flange		
10	Monitoring and Control	Through built-in RS485 / Ethernet		
11	Redundancy controller	Required.		
12	Operating Temperature	-10°C to +60°C		
13	Relative Humidity	100% condensing		

### 2.6 Ku band PLL LNB

Sl. No.	Description	Specification	Compliance (Yes/No)	Remarks, if any
1.	Input Frequency Band	10.95-12.75 GHz		
2.	Output frequency band	950-1700MHz		
3.	Gain	55 dB minimum		
4.	Gain flatness	(a) 0.5 dB p-p over 40 MHz (Maximum) (b) 2.0 dB p-p over Full bandwidth (Maximum)		
5.	LO stability	1 - 2.5 ppm		
6.	Noise Figure/Noise Temp.	0.9 dB maximum/65K max.		
7.	Input interface	WR 75 wave guide flange		
8.	Input /output return	14 dB minimum		



	loss			
9.	Output interface	N type Female		
10	Reference	10 MHz (Internal or External) (Uniform as per system design to be mentioned & justified during DR)		
11	Power requirement	DC 15 - 24 V (with appropriate cable)		
12	Operating Temperature	-10°C to +60°C		
13	Relative Humidity	100% condensing		

### 2.7 L-Band Modulator

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
1	Output frequency	950-1700 MHz		
2	Frequency stability (internal reference)	$\pm 5 \times 10^{-8}$ over 0°C to 70°C		
3	Output level	-35/+5 dBm (+/-2dB)		
4	Output impedance	50 ohms		
5	Output connector	SMA (F) preferable		
6	Output return loss	>14 dB		
7	Spurious Output	Better than -65 dBc/4kHz @ +5 dB level and > 256 kbaud		
8	Synthesizer Phase Noise	Should meet the requirement of IESS-308		
9	CW mode	Selectable		
10	Transmission rate	Variable, 1-45 Mbps		
11	Modulation code	QPSK, 8PSK		
12	Outer coding	BCH		
13	Inner coding	LDPC R= 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 (for DVB S2, QPSK), R= 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 (for DVBS2, 8PSK)		
14	Spectrum Roll off factor	20%, 25% and 35% selectable		
15	Modulation mode	Should be capable of emitting signals on the following mode 1. DVB-S2 2. Constant Coding and Modulation mode (CCM)		
16	Input interface	ASI/SPI interface - 2 selectable ASI input on BNC (F) – 75 ohms - SPI on 25 pin sub-D-		

		connector		
17	Reference	10 MHz (Uniform as per system design to be mentioned & justified during DR)		
18	The offered modulator should be compact, reliable and have state of the art technology. - 1RU with Dual PSU			
19	It should provide IF output as per DVB-S2 standard's modulation schemes, one scheme at a time.			
20	Modulators will be used in 1+1 redundant mode.			
21	Monitoring and Control through built-in RS485/Ethernet			

### 2.8 L-Band Splitter:

Bidder to quote for suitable L Band splitter at the L Band interface with following indicative specs.

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
1	Capacity	8-way minimum		
2	Frequency Range	950-1700 MHz minimum		
3	Gain	0 ± 1.0 dB across band		
4	RF Connector	50 ohms N type		
5	Gain Flatness	±0.8 dB for full band		
6	Input Return loss	16 dB minimum		
7	Output Return loss	16 dB minimum		
8	Isolation at 950 MHz	Minimum 24 dB		
9	Isolation at 1700 MHz	Minimum 24 dB		
10	10 MHz pass	Required		
11	10 MHz insertion loss	< 1dB		
12	Noise figure	10 dB typical		
13	3rd Order Intermodulation level	-40 dBc		
14	Input RF Power	16 dBm		
15	In Band Spurious	<-80 dBm		
16	LNB Power	0/13V/18Vdc, 500mA max via common (RF in) port		
17	Operating power supply	85-260 Vac 50-60 Hz		
18	Monitoring & Remote Control	LNB Current and power supplies monitored via RJ45 port with Ethernet interface		
19	Display	LED display to indicate PSU, LNB supply and amplifier status.		
20	Operating temperature	0 to 50° C		
21	Humidity	85% non-condensing		

### 2.9 L Band combiner

Sr. No.	Description	Specifications	Compliance (Yes/No)	Remarks, if any
1.	Capacity	4-way minimum		
2	Frequency Range	950-1700 MHz minimum		
3.	L Band I/O Interface	50 ohms N Connector		
4.	Input & Output Return loss	14 dB minimum		

### 2.10 Hub Baseband System for interactive channel

Item No.	Parameter	Description	Compliance (Yes/No)	Remarks, if any
1	Network Topology	Star		
2	Access Method	DVB-S2/S2x outbound and MF-TDMA inbound		
3	Terminals to be supported	100 Nos. or more Upgrade support up to 1000 Nos. or more.		
4	No. of carriers 1. Out-bound carrier 2. In-bound carriers	1 Nos. Configure up to 16 carriers or higher (Aggregated throughput of 10 MSPS or higher)		
5	Compatibility	Must integrate and function with the RF subsystem of the solution.		
<b>Outbound Link ( Hub to Remote)</b>				
6	Air interface	DVB-S2/S2x ACM as per Standard support: EN 302 307		
7	Outbound Frequency	L-band : 950-1750 MHz		
8	Modulation	QPSK, 8PSK, 16APSK , 32APSK		
9	Symbol rate	1.0 MSPS to 45 MSPS with 1 MSPS Step size		
10	FEC As per DVB-S2/S2x specifications	LDPC + BCH QPSK @ 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9 8PSK @ 3/5, 2/3, 3/4, 5/6, 8/9 16APSK @ 2/3, 3/4, 4/5, 5/6, 8/9 32APSK @ 3/4, 4/5, 5/6, 8/9		
11	BER	Quasi-error-free as per DVB-S2/S2x standards		

		EN 302307-1/2 or better Note: BER performance result of offered product with respect to DVB-S2/S2x standard should be submitted with Quotation		
<b>Return/Inbound channel link (Remote to Hub)</b>				
12	Access Scheme	MF-TDMA		
13	Input Frequency	950-1700 MHz or higher		
14	Modulation	QPSK/OQPSK, 8PSK (Bidder may quote for systems with similarly performing modulation & coding with suitable justification)		
15	Inbound channel Rate	256 Ksps to 4 Msps (configurable in 256, 512, 1024, 2048, 4096 ksps rates.)		
16	Information rate	128 kbps to 5 Mbps per inbound carrier with step size of 64 Kbps		
17	FEC	TPC/Turbo Codes/LDPC or equivalent/better		
18	Bandwidth access schemes	BoD (Bandwidth on Demand) CIR (Committed Information Rates) Support for Application triggered BoD & CIR (Static & Dynamic), MIR (maximum information rate) limit		
19	Bandwidth on Demand	0 - 5 Mbps Updates minimum every second with in-bound and out-bound capacity on requesting mechanism		
<b>Interface</b>				
20	Network	10/100/1000 Mbps Ethernet		
21	NMS	web interface control, remote terminal Management, Standard SNMP interfaces		
22	TX/ RX	L-band: 950-1700 MHz or higher Connector: SMA or compatible to RF Output Level: 0 to -25 dBm, step sizes : 0.5 dB (Compatible to Hub RF) Input level: -120 to -105 dBm/Hz typical (Compatible to		

		Hub RF)		
<b>IP Traffic</b>				
23	Protocols supported	IPv4, IPv6 support , TCP, UDP, IGMP v2, RIP1, RIP2, SNMP, SIP		
24	TCP acceleration	Yes – In Both Directions		
25	HTTP Web Perfecting and compression	Yes		
26	IP Header Compression	Yes with UDP, TCP, RTP header compression		
27	Multicast	Yes for both inbound and outbound traffic		
28	NAT	Yes (via Gateway router or NAT manager)		
29	QOS support	Yes		
30	VLAN tagging	Yes		
<b>Network Controller Centre and Network Management system</b>				
31	Network Control Centre (included monitor, Keyboard & Mouse)	Network Control Centre (NCC) software to provide management and control over the VSAT network system with NMS run on Server. (One time license)		
32	Network Management System (NMS) features - NMS Functions includes: - Carrier Management - Network status monitoring - Configuration of all network components including remotes - Downloading of operational Software to remotes over the air - Enabling or disabling of remotes - Fault diagnosis and display of alarm - Performance Management - Traffic Management - Account Management - Subscribers authentication and management			
33	Quantity of remote terminals in network	Minimum 100 terminals to be supported. Upgrade support up to 1000		
34	Hub Redundancy	Auto Redundant (1:1 configuration) NCC Application Servers: 1:1 NMS Database/Mgmt Servers: 1:1 TFSS (Time & Frequency): 1:1		

		Forward Link Systems (FLS): 1:1 Return Link Systems (RLS): 1:1 Network Accelerators: 1:1 IP Routers and Switch: 1:1 (As per OEM guideline )		
35	Redundant Subsystem/Cards	Vendor to provide proposed the recommended list of spare in their technical proposal for faulty system replacement.		
Others				
36	Fade Countermeasure Support	Yes		
37	Scalability	Scalable forward, return link capacities and number of supported remotes		
38	Encryption	AES- 256 bit Control/Data traffic – Optional Feature		
<b>Environmental and Electrical</b>				
39	Operating conditions	Operating temperature: 0 deg C to +30 deg C Humidity: up to 90% relative humidity non-condensing at operating temperature		
40	Power Specifications	100-240 VAC; 50 Hz / 60 Hz		

### 2.11 LMS Server

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1	Server	HP, DELL, Lenovo, Supermicro, Fujitsu		
1.1	Processor	Dual Intel (R) Xeon (R) Processor E5-2600 v4 series, 2.2 GHz, 10 cores or better		
1.2	Chipset & Motherboard	Intel C 610 series chipset or better		
1.3	Memory	32 GB DDR4 2133 MHz or better		
1.4	Hard Disk Drive	2 x 480 GB SSD 1 x 1 TB HDD 7200 RPM		
1.5	Storage controller	SATA Controller RAID support 0 & 1		
1.6	PCI Slots	Minimum 3 PCIe slots 1 x PCIe x16 3.0 or better 2 x PCIe x8 3.0 or better		
1.7	Bays	3.5-inch bays: 2 or better		

1.8	Ports	2 USB 2.0 or better, 2 x RJ-45(100/1G), or better		
1.9	Cabinet	19" Rack mountable		
1.10	Optical Drive	8 X DVD writer		
1.11	Operating system	Microsoft Windows 2012 R2 64 bit or higher		
1.12	Power supply	230V +/- 10% single phase, 50 Hz AC		
1.13	Keyboard	Standard Keyboard		
1.14	Mouse	Optical Scroll Mouse		
1.15	Software	Microsoft office 2016 Professional		
2	<b>Monitor</b>	19" LED Monitor or better		

### 2.12 LMS Teacher PC

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1	PC	HP, DELL, Lenovo, Supermicro, Fujitsu		
1.1	Processor	Intel Corei7 -6700T (3.4 GHz, 4 cores) or better		
1.2	Chipset & Motherboard	Intel Q170Chipset or better		
1.3	Memory	4 GB DDR4, 2 DIMM slots or better		
1.4	Hard Disk Drive	1 X 1TB HDD 7200 RPM SATA		
1.5	Graphics card	Dual ported Graphics card (One output for PC monitor second for Display TV) with atleast 10 meter HDMI cable length for graphics card to Display TV		
1.6	PCI Slots	Minimum 2 PCIe slots 1 X PCIe X 16 or better 1 X PCIe X 1 or better		
1.7	Ports	1 USB 2.0 or better 1 X RJ-45 (100/1G) audio in, audio out, mic in, and required ports for Keyboard and mouse		
1.8	Cabinet	Mini/Mid Tower or Tower		
1.9	Optical Drive	8 X DVD writer		
1.10	Operating system	Microsoft Windows 10 64 bit professional		
1.11	Power supply	230V +/- 10% single phase, 50		

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
	Hz AC		
1.12	Keyboard	Standard Keyboard	
1.13	Mouse	Optical Scroll Mouse	
1.14	Video capture card with drivers and software	Aver Media DVD EZmaker7 or iBallClaroTv - CTV54 orequivalent	
2	Monitor	19" LED Monitor or better	

### 2.13 Managed Switch

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1	48 port 1 Gbps Managed Layer-3 Switch to perform source NAT for interconnecting ATA IP based lease line connection to satellite chain router		

### 2.14 VoIP Exchange

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1.	2/4 GSM SIMs, 4 FXO and 2* FXS Ports (* optional).		
2.	16 VoIP Trunks		
3.	50 VoIP users licence (should be upgradable to 1000 users)		
4.	VoIP protocol: SIP v2, SDP, RTP.		
5.	VoIP connector: Ethernet (RJ 45).		
6.	Codecs : G.711 (A-Law and $\mu$ -law), G.723.1, G.729AB		
7.	Echo cancellation with up to 128ms Tail length.		
8.	GSM frequency band: Quad-Band GSM850, EGSM900, DCS1800, PCS1900.		
9.	SIM interface: 1.8, 3V SIM Interface.		
10.	FXO and FXS connector: RJ11.		
11.	Dialing and Reception: DTMF and Pulse Dialing.		
12.	Built-in HTTP web server , Programming via Web Browser		
13.	Operation with 230 Vac, 50 Hz.		
14.	Operating temperature: 0 - 40 0C.		
15	Operation manual, Software driver, application and necessary cables.		

### 2.15 Routing Switcher (16x16)

For routing video (SDI with embedded audio) from remote ATIs (through scan convertor) and studio master out, a routing switcher with following basic features should be proposed. This router should provide two different SDI outputs simultaneously as input to two encoders of ROT broadcast chain. This should be scalable upto 16 such inputs and outputs.



Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1	Auto-detect between SD/HD video		
2	Built-in SDI reclocking on every SDI input		
3	Should support 8-bit, 10-bit video		
4	Should support HD Video Resolutions up to 1080p60		
5	16 channels of embedded audio on each SDI signal		
6	Built-in video monitoring		
7	Preferably 1RU rack mountable		

### 2.16 SD & HD capable Encoder with interfaces

A professional grade SD and HD Encoder with necessary interfaces (internal/external Embedder etc.) to accept studio inputs of (SDI/HD-SDI and analog Audio).

Sr. No.	Parameter	Compliance (Yes/No)	Remarks, if any
1	The offered encoder should be a standalone unit with easy to use front panel control		
2	Should have latest SD/HD MPEG-4 AVC video encoding and compression algorithm		
3	Should support AAC/HE-AAC or equivalent for Audio Codec		
4	Input : SD-SDI and HD-SDI for video and ASI input for data		
5	Output: MPTS and SPTS (IP streaming)		
6	Video CODEC: MPEG-2, MPEG-4 AVC Chroma: 4:2:0		
7	Video output bitrate range: 1 to 45 Mbps or better		
8	Encoding Schemes: CBR		
9	Resolutions and Frame Rates: 720p@50, 1080i@50 Hz or 1080p@25 Hz		
10	Audio Formats: MPEG-1 Layer II, AAC-LC/HE-AAC Audio Bitrate: 32 - 384 kbps		
11	Control and monitoring: Should have web based control and monitoring facilities.		
12	19" Rack mountable		
13	Power: 100-240V AC		

### 2.17 Multiplexer unit

Sr. No.	Features	Compliance (Yes/No)	Remarks, if any
1.	Multiplexer with Statistical Multiplexing capability		
2.	Output bitrate configurable through Statmux configuration		
3.	Stat Mux facility should support at least 16 channels per stat Mux pool.		

4.	The multiplexer shall be capable of transmission of broadcast data signals along with video and audio.		
5.	Interfaces of inputs from Encoders and outputs to Modulator should be clearly defined in the proposal.		
6.	Redundancy: Multiplexer should support N+1 as well as N+P redundancy through NMS control		
<b>IP Specifications</b>			
7.	Type: Gigabit Ethernet		
8.	Ports: Minimum Two Independent Ports		
9.	I/O Speed: 900Mbps minimum		
10.	IP Encapsulation: MPEG-2 TS Over IP		
11.	MPEG Format: 188 B per TS		
12.	Addressing: Unicast/Multicast		
13.	Ethernet Interface: 1000Base T2		
<b>ASI Specifications</b>			
14.	Format: DVB-ASI		
15.	Connector: BNC		
16.	Interface Speed: 200 Mbps per port		

### 2.18 Two LMS PC for terrestrial login with Scan conversion

These PC (same configuration as SIT PC) with scan conversion would convert the received LMS data/stream to Audio/Video format and provide the input to Encoder. These Audio/Video signals will be broadcast through ROT Broadcast channels.

Two LMS PC : Same configuration as SIT PC

#### Scan Convertor

Sr. No.	Technical specification	Description	Compliance (Yes/No)	Remarks, if any
1	Input	DVI-I / HDMI		
2	Supported video output formats	PAL, 1080i		
3	Output	SDI, HD-SDI		
4	Composite video output	PAL		
5	HD SDI output	BNC connector (75 Ω)		
6	Audio Input:	1/8" stereo minijack		
7	Audio Digital output:	Embedded audio on SDI		

### 2.19 UPS & Generator at Hub

Sr. No.	Technical specification	Description	Compliance (Yes/No)	Remarks, if any
1	UPS	Minimum 30KVA UPS with 1 hour backup on full load. Incase bidder's solution requires higher rating UPS, the same may also be quoted.		
2	Generator	A generator set of appropriate capacity shall also be quoted .		

### 2.20 Typical Monitoring System Configuration

Sr. No.	Technical specification	Description	Compliance (Yes/No)	Remarks, if any
1	Hub Monitoring	Provision for monitoring of various remotely measurable parameters of Hub system including antenna sub-systems		
2	Monitor Video and Audio signals from following sources	Studio Audio/Video master out (on a ~32" Display) Three Interactive channels (three SIT PCs) Two Interactive channels from ATIs through terrestrial connectivity (two SIT PCs) Two ROT Channels (each using IRD and ~32" Display)		

All necessary interfaces, cables etc. for the smooth operations should be provided by the bidder.

### 2.21 Spectrum Analyser

Sr. No.	Parameter	Specifications	Compliance (Yes/No)	Remarks, if any
1	Frequency Range	9 kHz – 3 GHz		
2	Resolution Bandwidth (RBW)	10Hz to 3 MHz or better		
3	Video Bandwidth	10Hz to 3 MHz or better		
4	Input interface	N (female)		
5	SSB Phase Noise: Typical	-100 dBc/Hz @ 10 KHz carrier offset @1GHZ		
6	Minimum DC Input Safe level	30V DC		
7	Interface	10/100 Mbps Ethernet or better		
8	Memory card and USB card reader	4 GB or more		

9	75 ohm matching pad	Required		
10.	Average Noise Level	-115dBm at 1kHz RBW		
11.	Maximum Input	+30 dBm		
12	Log Scale	1dB/div.,5dB/div.,10dB/div.		
13	Operating Voltage	220V= $\pm$ 10%AC, 50Hz		

### 2.22 Power Meter

S.No.	Description	Specification	Compliance (Yes/No)	Remarks if any
1.	Freq. Range	100kHz to 18GHz		
2.	Power range	-30dBm to +20dBm		
3.	Input Connector	Type-N Female 50 Ohms Impedance		
4.	Operating Voltage	220V $\pm$ 10%AC,50Hz		

### 3.0 SIT System (1.2M / 2.4M)

Following are the sub-systems of SIT

#### 3.1 1.2m / 2.4m Ku band Antenna with mount and feed

Sr. No.	Description	Specification	Compliance (Yes/No)	Remarks, if any
1	Antenna diameter	1.2 M / 2.4M		
2	Dish Type	Single Reflector, GFRP		
3	Reflector Optics	Off set focus		
4	Mount	Non penetrating mount, AZ-EL		
5	Band of operation	Ku-Band Uplink : 13.75 – 14.50 GHz Downlink : 10.95 – 12.75 GHz		
6	Polarization	Linear (Vertical or Horizontal configurable)		
7	G/T at 20 deg. EL & Midband	Minimum 20 dB/K typical for 1.2 m, Minimum 23 dB/K typical for 2.4 m,		
8	Cross-Pol. Isolation	28 dB minimum		
9	Wind Speed	Operational: 120 Km/Hours (Min) Survival: 200 Km/Hours (Min)		

#### 3.2 PLL LNB

Sr. No	Items	Descriptions	Compliance (Yes/No)	Remarks, if any
1	RF Frequency (Input)	10.95 – 12.75 GHz		
2	Local Frequency (LO)	10.0 GHz		

3	Local Stability	± 3 ppm or external reference source stability		
4	L-Band output Frequency	950 to 1,700 MHz		
5	Input Interface	WR-75		
6	Output Interface	N-type, female (75 ohm)		
7	Noise Figure	0.8 dB		
8	Conversion Gain (at 25C)	60 dB min.		
9	Conversion Gain Variation (at 25C)	2 dB p-p max. In any 50 MHz segment over the frequency band		
10	Power Requirement	+15 to +24 V dc		
11	Operating Temperature	-10 to +50° C		

### 3.3 Ku Band BUC

SR. No.	Items	Description	Compliance (Yes/No)	Remarks, if any
1	L – Band Input Frequency	950 to 1700 MHz		
2	Ku-Band Output Frequency	13.75 to 14.50 GHz		
3	Power	4W (Bidder may provide quotations for BUC with different power options.)		
4	Output Interface	Waveguide, WR-75		
5	Output Power @ P1 dB	+36 dBm minimum		
6	Conversion Gain	56 dB typical		
7	External Reference Signal	Frequency : 10 MHz		
8	Power Requirement	+15 to +24 V dc		
9	Input Interface	N-type, female (75 ohm)		
10	Input / Output V.S.W.R.	2.0:1 max. @ Input 2.0:1 max. @ Output		
11	Operating Temperature	-10 to +50 degrees C		

### 3.4 Transmit receive RF Cable & Connector

RG-11 type cable with N-type connectors and minimum 30 meters cable length.

### 3.5 IDU: Satellite modem compatible with Hub baseband

Sr. No.	Description	Specification	Compliance (Yes/No)	Remarks, if any
1	Modulator Out put	-18 to -30 dBm typical, Tx – 950 to 1700 MHz		
2	Demodulator input	-35 to -70 dBm typical, Rx – 950 to 1700 MHz		
3	Compatibility	Must integrate and function with		

		the SIT RF subsystem of the solution.		
4	Symbol rate			
	Rx	Up to 45 MSPS or higher Compatible to Hub		
	Tx	256 Ksps to 4 MSPS or higher		
5	Modulation & Coding	Compatible to Gateway Baseband		
	Rx	ETSI EN 302 307 (DVB-S2/S2x) complaint		
	Tx	QPSK/OQPSK & 8 PSK or equivalent with TPC / Turbo codes / LDPC or better and compatible with Hub baseband. (Bidder may quote for systems with similarly performing modulation & coding with suitable justification)		
6	Baseband Physical Data Interface	RJ45, 10/100/1000 Mbps Ethernet (Data and configuration ports)		
7	Protocols Support	IPv4, IPv6, TCP, UDP, ICMP, DHCP, IGMP, RIP Version 2, Static Routes etc.		
8	IP traffic Compression and Acceleration	Compatible to Gateway baseband		
9	Traffic Engineering (QoS)	Compatible to Gateway baseband (Application based QoS, Minimum CIR, CIR (Static and Dynamic), Rate limiting etc)		
10	Primary Power	230V±10% AC, 50Hz.		

### 3.6 PC for SITs

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1	PC	HP, DELL, Lenovo, Supermicro, Fujitsu	
1.1	Processor	Intel Core i3 -6100T (3.2 GHz, 2 cores) or better	
1.2	Chipset & Motherboard	Intel H110 Chipset or better	
1.3	Memory	4 GB DDR3, 2 DIMM slots or better	
1.4	Hard Disk Drive	1 X 1TB HDD 7200 RPM SATA	
1.5	Graphics card	Dual ported Graphics card (One output for PC monitor)	

		second for Display TV) with at least 10 meter HDMI cable length for graphics card to Display TV		
1.6	PCI Slots	Minimum 2 Pcle slots 1 X PCIe X 16 or better 1 X PCIe X 1 or better		
1.7	Ports	1 USB 2.0 or better 1 X RJ-45 (100/1G) audio in, audio out, mic in, and required ports for Keyboard and mouse		
1.8	Cabinet	Mini/Mid Tower or Tower		
1.9	Operating system	Microsoft Windows 10 64 bit professional		
1.10	Power supply	230V +/- 10% single phase, 50 Hz AC		
1.11	Keyboard	Standard Keyboard		
1.12	Mouse	Optical Scroll Mouse		
2	<b>Monitor</b>	19" LED Monitor or better		

### 3.7 Wired Microphone

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1	Transducer type	Dynamic		
2	Polar pattern	Cardioid / Supercardioid		
3	Frequency response	50Hz to 15 KHz		
4	Output impedance	150 to 350 Ohms		
5	Connector	3Pin XLR		
6	Should provide minimum 10 meter cable of balanced XLR Female to 1/8"(3.5mm) mini plug for connecting to PC Input (E.P).			

### 3.8 Webcam

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1.	Resolution	Full HD		
2.	Focus Type	Auto		
3.	Still Image Quality	10MP or higher		
4.	Microphone Type	Built-in		
5.	OS Compatibility	Windows 10 and higher versions. Compatible to the PC supplied		
6.	Mounting Options	Mounting on monitor / LED TV		

7.	Pan, tilt functions	Should be available		
8.	Accessories	All required accessories like mounting clip, software with lifetime license, cables, etc. to be provided		

### 3.9 Ethernet Switch

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1	Minimum eight (8) port Ethernet switch 100Mbps (or better) should be provided to interconnect multiple PCs at SIT		
2	Power cable/adaptor and 10 numbers of CAT 5/6 ethernet cables (minimum 3 meters)		

### 3.10 VoIP phone

Sr. No.	Specification	Compliance (Yes/No)	Remarks, if any
1.	Single Ethernet port (RJ45 connector) VoIP phone		
2.	Call waiting, Call transfer, Call forward, Call hold, Mute, Redial		
3.	Support for Direct IP call without SIP proxy as well as call via SIP proxy		
4.	Codecs : G.711 (A-Law and $\mu$ -law), G.723.1, G.729AB		
5.	VoIP protocol: SIP v2, SDP, RTP.		
6.	IP Assignment: should have both Static & DHCP		
7.	DTMF: In-band, out-of-band and SIP INFO		
8.	Built-in HTTP web server , Programming via Web Browser		
9.	Power adapter, Operation manual, and necessary cables		

### 3.11 LED TV

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1.	Display type	LED		
2.	Size	~42/43" (minimum) or more		
3.	Resolution	Full HD 1920 x 1080		
4.	Aspect Ratio	16:9		
5.	Inputs			
	HDMI	At least one		
	Composite Video (PAL)	At least one		
	Audio in	At least one		
	Stereo Audio	2 Speakers built in		
6	Power input	220-240V		
7	Accessories like power cord, interface cables and remote			



### 3.12 UPS (2KVA)

Sr. No.	Specification		Compliance (Yes/No)	Remarks, if any
1.	Capacity	2 KVA		
2.	Type	Online		
3.	Backup	4 Hours back up		
4.	Make	Liebert/Numeric/APC		
5.	Batteries	SMF batteries (standard make like Exide/Amaron)		
6	Should include power strip, spike protector and other required accessories			

### 4.0 DTH Type Receive Only Terminals (ROTs)

1	Ku-Band Antenna(0.9m)	5	Unit Rate		
2	Ku-Band Digital LNBF	5	Unit Rate		
3	IFL Cable	5	Unit Rate		
4	Digital Set-Top Box (DVB-S2 Satellite Receiver)	5	Unit Rate		
5	Choice of Set-Top box with recording facility	5	Unit Rate		
6	~42" Display TV	5	Unit Rate		
7	Installation and commissioning charges for ROT	5	Unit Rate		
8	Any additional item/subsystem which bidder proposes for smooth functioning of the network	5	Unit Rate		

### Annexure-2. Guideline for Hub, SIT & ROT Installation, Integration and Commissioning Site preparation, installation, integration and commissioning activity for hub and control room

Sr. No.	Site Activity	Compliance (Yes/No)	Remarks / Justification
1	Obtain available site information from Purchaser		
2	Arrange proper permits to carry out the work		
3	Perform site survey (soil, geo-technical & Noise survey) including arc clearance. Ground clearance of approximately 0.5 meter, or as per site survey, is required when antenna is at 0 <sup>0</sup> elevation.		
4	Prior to submission of the bid, bidder should review, verify and evaluate site conditions, including Electrical supply & Air conditioning needs, interfaces/cables (L-band, antenna control, reference signals, power cables etc.), cable lengths, cable routing through covered cable guide/trench etc. Approximate cable length from antenna to equipment room will be 100 metres. System engineering should take care of the cable losses		

Sr. No.	Site Activity	Compliance (Yes/No)	Remarks / Justification
	Full duplex L-Band to optical convertors/ compatible transceivers should also be quoted . Studio is planned by purchaser adjacent to the hub control room. Bidder shall review and evaluate interface requirements for two number of videos (SDI/HD-SDI etc.), two pairs of stereo audio (XLR connectors etc.), HDMI interfaces, IP Connectivity etc.)		
5	Prepare site preparation–requirements and installation plan (SPRIP) including drawings and specifications present to the purchaser.		
6	The placement of equipment racks and layout should be planned, preferably keeping in view the visibility of antenna movements to operator. The detailed layout of control room including equipment rack drawings, etc. shall be finalized in consultation with purchaser. This should also include cable routing plan etc.		
7	Provide installation schedule		
8	Inform Purchaser of readiness to proceed with site installation		
9	Receive Go-ahead from Purchaser to proceed.		
10	Deploy material & implementation team to site.		
11	Install foundation		
12	Antenna centre point (Lat, Long) and true north marking.		
13	A maintenance platform and ladder shall be provided for ready access to the drive mechanism, LNBS, feed assembly.		
14	Assemble & Erect the antenna system.		
15	All alignment measurements shall be quantified and documented systematically.		
16	Assemble feed and sub reflector with proper alignment & accuracy.		
17	Install lightning arresters on antenna structure. Also aviation lamp if necessary. Grounding of the antenna to be done.		
18	Provision should be created to provide separate electrical earth (other than that available from local power supply) for all electronic systems.		
19	Install Antenna control system along with cabling & interface wiring.		
20	The LNB, BUC, Polarization Control Unit, etc. will be mounted along with the antenna. Suitable arrangement should be made to provide connectivity through		

Sr. No.	Site Activity	Compliance (Yes/No)	Remarks / Justification
	appropriate interfaces.		
21	The LNB and BUC outputs to be appropriately connected to the Antenna feed either directly or using low-loss waveguide using appropriate crossover mechanism.		
22	Spare cables/fibres (for redundancy) are to be laid along with main cable from Antenna feed to RF Patch Panel in control room to have a facility to switch-over to these cables in case of failure of any of the main cables. The Antenna control unit shall be mounted inside the control room while its drive system should preferably be kept near the antenna.		
23	Commission & Operate Antenna to verify all the mechanical/electrical specifications.		
24	Install equipment racks.		
25	Other Electronics shall be housed inside the control room. All the control equipment PC shall be suitably located in the HUB room for ease of operations.		
26	The downlink RF subsystems & uplink RF subsystems will be housed in separate racks.		
27	Preferably, RF as well as IF interfaces shall be kept on upper side of the rack and will be terminated at the input/output panel of each rack at the rear.		
28	RF and IF interface cables in-between the racks shall be elegantly routed and laid through conduit/tray/channels and properly labeled.		
29	All subsystems in the control room should preferably be housed in the standard 19" racks (preferably with heavy duty caster wheels) with provisions for elegant cabling & appropriate access and ventilation.		
30	The sub-systems should preferably have all interfaces at the rear side of the unit with monitoring points and local controlling switches etc. on the front side.		
31	Each rack will have built in Exhaust fans (minimum 4 Nos. of AC operated type) at the top.		
32	Each rack should have copper grounding strip for connecting chassis ground.		
33	Each rack should have appropriate AC power distribution boards for connecting all rack equipment and with at least 3 nos. of spare sockets. All power sockets and plug to confirm to ISI standards.		
34	Perform acceptance test, commissioning and provide Hub O & M manuals and training.		
35	Provide necessary operational and basic troubleshooting		

Sr. No.	Site Activity	Compliance (Yes/No)	Remarks / Justification
	training.		
36	Electrical: The UPS system and the Generator should be configured. All type of earthings including lighting arresters, power etc. should be essential part of the activity.		

### Site preparation, installation, integration and commissioning activity for SIT

Stage	Site Activity	Compliance	Remarks / Justification
1	Obtain available list of remote sites (SITs) from purchaser.		
2	Arrange proper permits to carry out the work		
3	Dispatch Material / items to respective remote sites.		
4	Provide purchaser with SIT site readiness requirements.		
5	Review, verify and evaluate site conditions as per site readiness documents submitted to Purchaser.		
6	Provide SIT Installation schedule after getting confirmation on site readiness from Purchaser.		
7	Decide exact Antenna installation place keeping in view clear line of sight to satellite & maximum permissible IFL cable length (30 m)		
8	Install 1.2M / 2.4M Ku-band antenna of SIT with cabling & interface wiring properly routed using conduits etc. in consultation with the local coordinator.		
9	Perform Acceptance test and commissioning of SIT.		
10	Impart on-site training to site coordinator for operation of SIT & provide O & M Manual & Training Manual		

### Installation of ROTs

Stage	Site Activity	Compliance	Remarks / Justification
1	Obtain available list of sites (ROTs) from Purchaser.		
2	Arrange proper permits to carry out the work		
3	Dispatch Material / items to respective identified sites (ROTs).		
4	Provide ROT Installation schedule after getting confirmation on site readiness from Purchaser		
5	Review, verify and evaluate site conditions as per site readiness documents submitted to Purchaser.		

6	Decide exact Antenna installation place keeping in view clear line of sight to satellite & maximum permissible RIF cable length (30 m)		
7	Install 0.9 M Ku-band antenna with cabling & interface wiring in consultation with the local coordinator.		
8	Demonstration of the ROT reception, to the site coordinator		

## **4. DRAWINGS**

These Bidding Documents includes [“no”] drawings.

*[If documents shall be included, insert the following List of Drawings]*

## 5. INSPECTIONS AND TESTS

The following inspections and tests <sup>8</sup>shall be performed:

1. Inspection and tests prior to shipment of Goods and at final acceptance are as follows:

- (i) The inspection of the goods shall be carried out to check whether the goods are in conformity with the technical specifications attached to the purchase- order form and shall be in line with the inspection/test procedures laid down in the technical specifications and the General Conditions of contract. Following broad test procedure will generally be followed for inspection and testing of machine. The supplier will dispatch the goods to the ultimate consignee after internal inspection testing along with the supplier's inspection report, manufacturer's warranty certificate. The purchaser will test the equipment after completion of the installation and commissioning at the site of the installation. For site preparation, the supplier should furnish all details to the purchaser sufficiently in advance so as to get the works completed before receipt of the equipment. Complete hardware and software as specified in section VI should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
- (ii) The acceptance test will be conducted by the purchaser/their consultant or any other person nominated by the purchaser, at its option. The acceptance will involve trouble- free operation for seven consecutive days. There shall not be any additional charges for carrying out acceptance tests. No malfunction, partial or complete failure of any part of hardware or excessive heating of motors attached to printers, drivers etc. or bugs in the software should occur. All the software should be complete and no missing modules/sections will be allowed. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the purchaser, the successful completion of the test specified.
- (iii) In the event of the hardware and software failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser.

**Inspection and acceptance tests will be conducted as per the Acceptance Test Plan(ATP) which is mentioned in the detailed scope of work .The ATP document will be supplied by the bidder and approved by the purchaser.**

### 2. Manuals

- Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals of the goods and equipment. These shall

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<sup>8</sup> To be reviewed and revised for each procurement depending on the equipment to be procured.

be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.

- The manuals shall be in the ruling language (English) and in such form and numbers as stated in the contract.
- Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals have been supplied to the Purchaser.

**3. For the System and Other Software the following will apply:**

The Supplier shall provide complete and legal documentation of hardware, and licensed operating systems. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

**4. Acceptance Certificates:**

- On successful completion of acceptability test, receipt of deliverables etc, and after the purchaser is satisfied with the working on the system, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the systems.



**6. PROFORMA OF CERTIFICATE FOR ISSUE BY THE  
PURCHASER AFTER SUCCESSFUL  
INSTALLATION AND STARTUP OF THE SUPPLIED  
GOODS**

*[This is to be attached for supply, erection, supervision of erection and startup contracts only]*

No.

Date:

M/s.

Sub: Certificate of startup of the supplied Goods

1. This is to certify that the plants / Equipment as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in Para No. 2) and a set of spares in accordance with the Contract/Specifications. The same has been installed and commissioned.

(a) Contract No. \_\_\_\_\_ dated \_\_\_\_\_

(b) Description of the Equipment \_\_\_\_\_

(c) Sl.No. \_\_\_\_\_

(d) Quantity \_\_\_\_\_

(e) Rail/Roadways Receipt No. \_\_\_\_\_ dated \_\_\_\_\_

(f) Name of the consignee \_\_\_\_\_

(g) Date of startup and proving test \_\_\_\_\_

2. Details of accessories/spares not yet supplied and recoveries to be made on that account.

<u>S. No.</u>	<u>Description</u>	<u>Amount to be recovered</u>
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3. The proving test has been done to our entire satisfaction and operators have been trained to operate the plant.

4. The supplier has fulfilled his contractual obligations satisfactorily. \*

or

The supplier has failed to fulfill his contractual obligations with regard to the following:

- (a)
  - (b)
  - (c)
  - (d)
5. The amount of recovery on account of non-supply of accessories and spares is given under Para No. 2.
6. The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated in endorsement of the letter.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation with Stamp \_\_\_\_\_

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\* Explanatory notes for filling up the certificates:

- (a) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to Technical Specifications.
- (b) He has supervised the startup of the plan in time i.e., within the period specified in the contract from the date of intimation by the Purchaser in respect of the installation of the plant.
- (c) Training of personnel has been done by the supplier as specified in the contract
- (d) In the event of documents/drawings having not been supplied or installation and startup of the plant have been delayed on account of the supplier, the extent of delay should always be mentioned.

*Note: This form is for the information only. It is not to be filled and submitted / uploaded along with the bid.*

## 7. PROFORMA FOR PERFORMANCE STATEMENT

[Please see ITB Clause 38.2 and Section III-  
Evaluation and Qualification Criteria]

Proforma for Performance Statement (for a period of lastfive / three years)

Bid No. \_\_\_\_\_ Date of opening \_\_\_\_\_ Time \_\_\_\_\_ Hours

Name of the Firm \_\_\_\_\_

<u>Order placed by (full address of Purchaser)</u>	<u>Order No. and date</u>	<u>Description and quantity of ordered equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery</u>		<u>Remarks indicating reasons for late delivery, if any</u>	<u>Has the equipment been satisfactorily functioning? (Attach a certificate form the Purchaser/Consignee)</u>
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the Bidder \_\_\_\_\_  
\_\_\_\_\_

*Note: This form is to be completed and submitted / uploaded along with the supporting document if any.*

**8. DECLARATION FOR CLAIMING EXCISE DUTY EXEMPTION  
(Name of the Project)**

Bid No. ....  
Description of item to be supplied .....

(Information for issue of certificate for claiming exemption of Excise Duty (ED) in terms of Central excise notification No. 108/95)

**(Bidder's Name and Address):**

**To  
(Name Of Purchaser)**

.....

Dear Sir:

1. We confirm that we are solely responsible for obtaining deemed export benefits which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, Purchaser will not compensate us.
2. We are furnishing below the information required by the Purchaser for issue of necessary certificate in terms of Central Excise notification no 108/95.
  - (i) Ex-factory price per unit on which ED is payable: \*Rs. \_\_\_\_\_
  - (ii) No of Units to be supplied: \_\_\_\_\_  
\_\_\_\_\_
  - (iii) Total cost on which ED is payable (Rs.) \_\_\_\_\_

*(The requirements listed above are as per current notifications. These may be modified, if necessary, in terms of the rules in force)*

(Signature) \_\_\_\_\_  
(Printed Name) \_\_\_\_\_  
(Designation) \_\_\_\_\_  
(Common Seal) \_\_\_\_\_

*\* Please attach details item-wise with cost,if there are more than one item. The figures indicated should tally with what is given in the price schedule.*

*Note: This Forms needs to be completed and submitted / uploaded along with supporting document if any.*

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## **PART 3 – CONTRACT**

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## **SECTION VII – GENERAL CONDITIONS OF CONTRACT**

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## Section VII. General Conditions of Contract

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## Section VII. General Conditions of Contract

### 1. Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is India.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, start-up, training and initial maintenance and other such obligations of the Supplier under the Contract.



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- (l) “SCC” means the Special Conditions of Contract.
  - (m) “Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
  - (n) “Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
  - (o) “The Project Site,” where applicable, means the place named in the SCC.

**2. Contract Documents**

2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

**3. Fraud and Corruption**

3.1 If the Purchaser determines that the Supplier has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Purchaser may, after giving 14 days notice to the Supplier, terminate the Supplier's employment under the Contract and cancel the contract, and the provisions of Clause 35 shall apply as if such termination had been made under Sub-Clause 35.1.

(a) For the purposes of this Sub-Clause:

- (i) “corrupt practice”<sup>9</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
  - (ii) “fraudulent practice”<sup>10</sup> is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
  - (iii) “collusive practice”<sup>11</sup> is an arrangement between two or more parties designed to achieve an
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improper purpose, including to influence improperly the actions of another party;

- (iv) “coercive practice”<sup>12</sup> is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (v) “obstructive practice” is
  - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
  - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under Clause 11 [Inspections and Audits by the Bank].

3.2 Should any employee of the Supplier be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the purchase of the Goods, then that employee shall be removed.

#### **4. Interpretation**

- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
  - (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by Incoterms.
  - (b) The terms EXW and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.

#### 4.2 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

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4.3 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.4 Nonwaiver

(a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

(b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.5 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

**5. Language**

5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be English. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in English language, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

**6. Deleted**

**7. Eligibility**

7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.

7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined,

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- cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 8. Notices**
- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Union of India.
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.
- 11. Inspections and Audit by the Bank**
- 11.1 The Supplier shall permit the Bank and/or persons appointed by the Bank to inspect the Supplier’s offices and/or the accounts and records of the Supplier and its sub-contractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Bank if required by the Bank. The Supplier’s attention is drawn to Clause 3, which provides, inter alia, that acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility under the Procurement Guidelines).

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- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Special Condition of Contract.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15. Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment** 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The payments shall be made in Indian Rupees to the Supplier under this Contract.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitrage award.
- 17. Taxes and Duties** The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 18. Performance Security** 18.1 If required as specified in the **SCC**, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the **SCC**.
- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

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**19. Copyright**

18.3 As specified in the SCC, the Performance Security shall be denominated in the Indian Rupees, and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.

18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

**20. Confidential Information**

20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

(a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;

(b) now or hereafter enters the public domain through no fault of that party;

(c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly

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or indirectly, from the other party; or

- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

**21. Subcontracting**

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

**22. Specifications and Standards**

22.1 Technical Specifications and Drawings

(a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.

(b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.

(c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

**23. Packing and Documents**

23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme

- 
- temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.
- 24. Insurance** 24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.
- 25. Transportation** 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 26. Inspections and Tests** 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of



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such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.

26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

## **27. Liquidated Damages**

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the **SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

## **28. Warranty**

28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for

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eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.

28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **29. Patent Indemnity**

29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or

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claim.

29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

**30. Limitation of Liability**

30.1 Except in cases of criminal negligence or willful misconduct,  
(a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and  
(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

**31. Change in Laws and Regulations**

31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in India, where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the

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- foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.
- 32. Force Majeure**
- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 33. Change Orders and Contract Amendments**
- 33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:
- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
  - (b) the method of shipment or packing;
  - (c) the place of delivery; and
  - (d) the Related Services to be provided by the Supplier.
- 33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier’s performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier’s receipt of the Purchaser’s

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change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**34. Extensions of Time**

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

**35. Termination**

35.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;

(ii) if the Supplier fails to perform any other obligation under the Contract; or

(iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable

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to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

**36. Assignment**

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

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## SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

<b>GCC 1.1(j)</b>	The Purchaser is: <i>National Instructional Media Institute (NIMI)</i>
<b>GCC 1.1 (o)</b>	The Project Site(s)/Final Destination(s) is/are: Hub at Chennai and SIT at 35 locations in various parts of India as per list enclosed in Annexure-3 <i>ROT destination will be NIMI Chennai.</i>
<b>GCC 4.2 (a)</b>	The meaning of the trade terms shall be as prescribed by Incoterms.
<b>GCC 4.2 (b)</b>	The version edition of Incoterms shall be 2010
<b>GCC 8.1</b>	<p>For <b><u>Notices</u></b>, the Purchaser's address shall be:</p> <p>Attention: Shri Madhu P Nair Address: Post Box No. 3142, CTI Campus, Guindy Industrial Estate, Guindy City: Chennai ZIP Code: 600032 Country: INDIA Telephone: 91-44-22500256 Facsimile number: 91-44-2250079 Electronic mail address: <a href="mailto:Chennai-nimi@nic.in">Chennai-nimi@nic.in</a></p> <p>The Supplier address shall be:</p> <p>Attention: Address: Phone</p>

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**GCC 10.2****Settlement of Disputes**

The dispute settlement mechanism to be applied shall be as follows:

- (a) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the institution of Engineers (India), Chennai.
- (b) In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with provisions of UNCITRAL (United nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the parties, and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India), Chennai.
- (c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the President of the Institution of Engineers (India), Chennai both in cases of the Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the President of the Institution of Engineers (India), Chennai, making such an appointment shall be furnished to each of the parties.



	<p>(d) Arbitration proceedings shall be held at Chennai, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.</p> <p>(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>(f) Where the value of the contract is Rs.10 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely the President of the Institution of Engineers (India), Chennai.</p> <p>(g) Except otherwise agreed to by the Parties, Arbitrators should give a decision in writing within 120 days of receipt of notification of dispute.</p>
<b>GCC 12.1</b>	The scope of supply for the Goods and Related Services to be supplied shall be as specified in the <i>Schedule of Requirement</i> .

<p><b>GCC 13.1</b></p>	<p>Details of Shipping and other Documents to be furnished by the Supplier are given below:</p> <p>GCC 13.1 Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser :</p> <ul style="list-style-type: none"> <li>(i) Three Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount;</li> <li>(ii) Delivery note, Railway receipt, or Road consignment note or equivalent transport document or acknowledgement of receipt of goods from the Consignee;</li> <li>(iii) Three Copies of packing list identifying contents of each package;</li> <li>(iv) Insurance certificate;</li> <li>(v) Manufacturer's/Supplier's warranty certificate;</li> <li>(vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and</li> <li>(vii) Certificate of origin.</li> </ul> <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and if not received, the supplier will be responsible for any consequent expenses.</p>
<p><b>GCC 15.1</b></p>	<p>The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.</p>
<p><b>GCC 16.1</b></p>	<p>GCC 16.1 Payment shall be made in Indian Rupees in the following manner:</p>

	<p>a) <b><u>Payment towards goods and services:</u></b>  <b><u>Delivery of Hub subsystems</u></b></p> <ol style="list-style-type: none"> <li>1. 50% of Hub sub-system (<i>price quoted in price schedule, including the cost of services but excluding the cost of AMC to be considered</i>), against delivery on site</li> <li>2. 30% of Hub sub-system after successful Installation of Antenna, RF, baseband sub-systems &amp; control room integration and demonstration with co-located SIT &amp; ROT.</li> <li>3. 20% of Hub sub-system after Acceptance testing &amp; Commissioning and after submission of performance bank guarantee for 10% of order value of Hub Subsystem for one year.</li> </ol> <p><b><u>Delivery of SITs &amp; ROTs</u></b></p> <ol style="list-style-type: none"> <li>1. 70% payment against delivery at respective sites on pro-rata basis based on documentary evidence. (<i>price quoted in price schedule, including the cost of services but excluding the cost of AMC to be considered</i>)</li> <li>2. 30% after installation and commissioning. Bidder will be eligible to claim 30% of the payment after 3 months of delivery, in case the site is not commissioned due to reasons attributable to the purchaser.</li> </ol> <p>Charges for comprehensive maintenance services shall be paid after completion of warranty from the date of issue of acceptance certificate in equal quarterly installments at the end of each quarter as per the rates quoted in the price schedule.</p> <p>Charges shall be paid against an unconditional Bank Guarantee for 10% of the cost of annual comprehensive maintenance charges in the form provided in the bidding document valid for 2 years from the date of completion of warranty period.</p>
<b>GCC 16.5</b>	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p> <p>The interest rate that shall be applied is 4% per annum.</p>
<b>GCC 17</b>	<p>In the case of Excise duty waiver, the purchaser will issue only the certificates in terms of the Central Excise notification as per information given by supplier in form at serial no.8 of Section VI. Supplier is solely responsible for obtaining such benefits and in case of failure to receive such benefits, the purchaser will not compensate the supplier separately.</p>

<b>GCC 18.1</b>	<p>Within 21 days of Notification of Award, the supplier shall furnish Performance Security to the Purchaser which shall be for an amount of 10% of the contract value, valid for a period of 45 days beyond the time given for execution of NCB contract to cover Package-1 after the date of completion of performance obligations including warranty obligations and a performance security valid for a period of 45 days beyond the time of one year of Framework Agreement to cover the Framework Agreement.</p> <p>In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/ replaced material shall be extended to a further period of 12 months and the Performance Bank guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.</p>
<b>GCC 18.3</b>	<p>The Performance Security shall be in the form of a unconditional “Bank Guarantee” or “a cashier’s cheque or banker’s certified cheque or crossed demand draft or pay order” drawn in favour of the Purchaser (<b>National Instructional Media Institute (NIMI), payable at Chennai.</b>)</p>
<b>GCC 18.4</b>	<p>Discharge of the performance Security shall take place not later than 60 days following the date of completion of the Supplier’s performance obligations, including the warranty obligation, under the contract.</p>
<b>GCC 18.5</b>	<p>Add as Clause 18.5 to the GCC the following:</p> <p>In the event of any contractual amendment, the Supplier shall, within 28 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 60 days after the completion of performance obligations including warranty obligations.</p>
<b>GCC 23.2</b>	<p><u>Packing Instructions:</u> The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink with the following:</p> <p>(i) Project; (ii) Contract No.; (iii) Country of Origin of Goods; (iv) Supplier’s Name; (v) Packing List Reference Number.</p> <p>Suppliers should use recycled materials as much as possible for packing</p>
<b>GCC 24.1</b>	<p>The insurance shall be paid in an amount equal to 110 percent of the EXW value of the Goods from “Warehouse to warehouse (final destination)” on “All Risks” basis including War Risks and Strikes.</p>

<b>GCC 25.1</b>	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and all related costs shall be included in the Contract Price.
<b>GCC 26.1</b>	<p>The inspections and tests shall be as detailed in Para 5 of Section VI-Schedule of Requirement: The supplier shall get each item indicated in the Schedule of requirement inspected in manufacturer's works and submit a test certificate and also manufacturer's guarantee /warranty certificate that the items are conforms to the laid down specification.</p> <p>The Purchaser or its representative may inspect and /or test any or all the items to confirm their conformity to the contract specification, prior to dispatch from the manufacturer's premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the items on receipt at destination to verify conformity to technical specification.</p> <p>If the items are fails to meet the laid down specifications the supplier shall take immediate steps to remedy the deficiency or replace the defective parts of the each to the satisfaction of the purchaser/ consignee.</p>
<b>GCC 26.2</b>	<p>The Inspections and tests shall be conducted at: Factory Inspection reports and end to end testing at purchaser's site As per ATP document. For SITs tests will be conducted at the respective sites as per annexure-3</p>
<b>GCC 27.1</b>	The liquidated damage shall be: 0.5% of contract price of delayed Goods or Services per week or part thereof. The maximum amount of liquidated damages shall be: 10% of the contract price excluding cost of AMC.
<b>GCC 28.3</b>	The warranty period shall be 1 year from the date of final acceptance.
<b>GCC 28.5</b>	The period for repair or replacement shall be: 2 days for hub and 15 days for SITs and ROTs.
<b>GCC 28.6</b>	The period shall be 14 days.
<b>GCC 28.7</b>	Add the following clauses.
	<p><b>28.7.1</b> Proper maintenance services shall be provided by the supplier during the period of warranty including quarterly visits.</p>

	<p><b>28.7.2</b> The maximum response time for a maintenance complaint from any of the destination specified in the schedule of requirements (i.e. time required for suppliers maintenance engineers to report and resolve the problem after a request call/telegram/fax is made or letter is written) shall not exceed 48 hours for hub and 15 days for SITs.</p>
	<p><b>28.7.3</b> Failure to arrange for the immediate repair/replacement beyond the specified repair time will be liable for penalty of 0.2% of quarterly CAMC value per day and will be recovered from the bill with ceiling of 10% of quarterly CAMC value. The amount of penalty will be recovered from bank guarantee during warranty period.</p>
<b>GCC 31.1</b>	<p>This clause will apply only to variations in Excise duty/VAT/Sales tax/Octroi etc payable in India on the final product which is being supplied and not for the individual components / raw materials which go into the product.</p>
<b>GCC 37</b>	<p><b>Add the following additional sub clauses.</b></p> <p><b>37.1</b> Supplier integrity:</p> <p>The supplier is responsible for and obliged to conduct all contracted activities in accordance with the contract using state- of- the- art methods and economic principles and exercising all means available to achieve the performance specified in the Contract.</p>

	<p><b>37.2</b></p> <p>Supplier's obligations :</p> <p>The Supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities.</p> <p>The Supplier will abide by the job safety measures prevalent in India and will free the Purchaser from all demands or responsibilities arising from accidents or loss of life the cause of which is the supplier's negligence. The Supplier will pay all indemnities arising from such incidents and will not hold the purchaser responsible or obligated.</p> <p>The Supplier is responsible for managing the activities of its personnel or sub- contracted personnel and will hold itself responsible for any misdemeanors.</p> <p>The Supplier will treat as confidential all data and information about the purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Purchaser.</p>
	<p><b>37.3</b></p> <p>Site preparation and installation</p> <p>The Purchaser is solely responsible for the construction of the hardware sites in compliance with the technical and environmental specifications defined by the supplier. The Purchaser will designate the installations sites before the scheduled installation date to allow the supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the hardware.</p>
	<p><b>37.4</b></p> <p>Hardware installation:</p> <p>The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between hardware units and connecting to power supplies. The Supplier will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.</p>

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**37.5**

**Hardware maintenance:**

The Supplier will accomplish preventive and breakdown maintenance activities to ensure that all hardware put are without defect or interruption for at least 95% uptime for 24 hours a day, 7 days a week of operation of the machine worked on a quarterly basis.

If any critical component of the entire configuration is out of service for more than three days, the Supplier shall either immediately replace the defective unit or replace it at its own cost.

The Supplier will respond to a site visit and complete repair work on the equipment within 2 days of being notified of equipment malfunction.



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**Attachment: Price Adjustment Formula**

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## **SECTION IX – CONTRACT FORMS**

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## 1. CONTRACT AGREEMENT

*[The successful Bidder shall fill in this form in accordance with the instructions indicated]*

THIS CONTRACT AGREEMENT is made

the *[ insert: **number** ]* day of *[ insert: **month** ], [ insert: **year** ]*.

BETWEEN

- (1) *[ insert complete name of Purchaser ], a [ insert description of type of legal entity, for example, an agency of the Ministry of .... of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser } ] and having its principal place of business at [ insert address of Purchaser ] (hereinafter called “the Purchaser”), and*
- (2) *[ insert name of Supplier ], a corporation incorporated under the laws of [ insert: country of Supplier ] and having its principal place of business at [ insert: address of Supplier ] (hereinafter called “the Supplier”).*

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of *[insert Contract Price in words and figures, expressed in the Contract currency(ies)]* (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
  - (a) This Contract Agreement
  - (b) Special Conditions of Contract
  - (c) General Conditions of Contract
  - (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
  - (e) The Supplier’s Bid and original Price Schedules
  - (f) The Purchaser’s Notification of Award
  - (g) Penalty Clause mentioned under List of Goods and Delivery Schedule
  - (h) *[Add here any other document(s)]*
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

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4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
  5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[ insert identification of official witness]*

*Note: This form is for information of the bidder. It is not to be completed and submitted / uploaded as a part of the bid.*

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## 2. PERFORMANCE SECURITY

*[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]*

Date: *[insert date (as day, month, and year) of Bid Submission]*

NCB No. and title: *[insert no. and title of bidding process]*

Bank's Branch or Office: *[insert complete name of Guarantor]*

**Beneficiary:***[insert complete name of Purchaser]*

**PERFORMANCE GUARANTEE No.:** *[insert Performance Guarantee number]*

We have been informed that *[insert complete name of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. *[insert number]* dated *[insert day and month]*, *[insert year]* with you, for the supply of *[description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert amount(s)<sup>13</sup> in figures and words]* upon receipt by us of your first demand in writing declaring the Supplier to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This Guarantee shall expire no later than the *[insert number]* day of *[insert month]**[insert year]*,<sup>14</sup> and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

*[signatures of authorized representatives of the bank and the Supplier]*

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<sup>13</sup> *The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Purchaser.*

<sup>14</sup> *Dates established in accordance with Clause 17.4 of the General Conditions of Contract ("GCC"), taking into account any warranty obligations of the Supplier under Clause 15.2 of the GCC intended to be secured by a partial Performance Guarantee. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the Bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: " We agree to a one-time extension of this Guarantee for a period not to exceed [six months] [one year], in response to the Purchaser's written request for such extension, such request to be presented to us before the expiry of the Guarantee."*

*Note: This form is for information of the bidder. It is not to be completed and submitted / uploaded as a part of the bid.*

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### **3. ANNUAL MAINTENANCE SECURITY BANK GUARANTEE FORM**

(To be stamped in accordance with Stamp Act if any, of the Country of the Issuing Bank) Bank Guarantee  
No.:..... Date:.....

To..... (Name of the Purchaser)

Whereas.....(Name of the Purchaser) herein after called "the Supplier" has undertaken, in pursuance of contract No.....dated.....20... to supply .....(Description of Goods and Services) herein after called "the Contract".

AND WHEREAS it has been stipulated by you in the said contract that the Supplier shall furnish you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with the Supplier's performance obligations under the contract for Annual Maintenance and Repairs of the entire system including cost of spares after warranty period for next five years.

AND WHEREAS we have agreed to give the Supplier a Guarantee.

THEREFORE WE hereby affirm that we are Guarantors and responsible to you on behalf of the Supplier, up to a total of Rs.....(Amount of guarantee in words and figures) being 2.5% of the total cost of equipment and we undertake to pay you, upon your first writtendemand declaring the Supplier to be in default under the contract and without cavil or argument, any sum or sums within the limit of Rs. .... (Amount of guarantee) as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until.....day of.....20.....

Signature and Seal of Guarantors

.....  
Date:.....20.....

NOTE:

1. SUPPLIERSSHOULD ENSURETHATSEAL AND CODE No. OF THE SIGNATORY IS PUT BY THE BANKERS, BEFORE SUBMISSION OF THE BANK GUARANTEES.

*Note: This form is for information of the bidder. It is not to be completed and submitted / uploaded as a part of the bid.*

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**PART 4**  
**FORM OF FRAMEWORK AGREEMENT**

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## Form of Framework Agreement

THIS Agreement (“Agreement”) is entered into this *[insert starting date]*, by and between National Instructional Media Institute (NIMI) (“the Purchaser”) having its principal place of business at *Chennai, Tamil Nadu, India 600032*, and *[insert Supplier’s name]* (“the Supplier”) having its principal office located at *[insert Supplier’s address]*.

This Agreement is a binding contract but imposes no obligation on the Purchaser to purchase the estimated or any quantity from the Supplier.

WHEREAS, the Purchaser wishes to have the Supplier supply the Goods hereinafter referred to, and

WHEREAS, the Supplier is willing to supply these Goods,

NOW THEREFORE THE PARTIES hereby agree as follows:

- 1. Scope**                    The Purchaser has entered into Framework Agreements with the Supplier in order to allow End implementing Agencies (EIAs) (acting on behalf of Purchaser) to award Purchase Order under the Framework Agreement. The Supplier shall supply the Goods specified in Annex A (“Schedule of Requirements,” which is made an integral part of this Agreement) as and when the EIAs issue the Purchase Orders (in the format specified at Section V) specifying the details of Goods to be delivered along with the delivery schedule and consignee’s address.
- 2. Term**                     This framework agreement shall be valid for a period of 1 year during the period commencing *[insert starting date]* and continuing through *[insert completion date]*, or any other period (maximum duration of the agreement shall not be more than 3 years) as may be subsequently agreed by the parties in writing.
- 3. Country of Origin**        All Goods and Services supplied under this Agreement shall have their origin in the countries and territories eligible under the rules of the World Bank (“the Bank”).
- 4. Standards**                The Goods supplied under this Agreement shall conform to the standards mentioned in the Technical Specifications and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin.
- 5. Use of Documents and Information**    The Supplier shall not, without the Purchaser’s prior written consent, disclose the Agreement, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Agreement.
- 6. Inspection and Audit by the Bank**                    The Supplier shall permit the Bank and/or persons appointed by the Bank to inspect the Supplier’s Offices and/or the accounts and records of the Supplier and its sub-contractors, agents, personnel, consultants, service providers or suppliers relating to the performance of the Agreement, and to have such accounts and records audited by auditors appointed by the Bank if required by the Bank. The Supplier’s attention is drawn to Clause 7, which provides, inter alia, that acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under this Sub-Clause constitute a prohibited practice subject to Agreement termination (as well as to a determination of ineligibility under the Procurement Guidelines).



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## 7. Fraud and Corruption

The Bank requires that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts. In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party ;
  - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation ;
  - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party ;
  - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party ;
  - (v) “obstructive practice” is
    - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
    - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under Clause 6 above.
- (b) will reject a Proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with prevailing Bank’s sanctions procedures , including by publicly declaring

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such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated sub-contractor, consultant, supplier or services provider of an otherwise eligible firm being awarded a Bank-financed contract;

- 8. Conflict of Interest** The Supplier declares that it (or any affiliate that directly or indirectly controls, is controlled by, or is under common control with Supplier) has not been engaged by (i) the Borrower or (ii) the Purchaser or (iii) the End Implementing Agency (that has been duly authorized to act on behalf of the Purchaser) to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the Goods described in this framework agreement.
- 9. Registration of Goods** If required under the Applicable Law, Goods supplied under the Agreement shall be registered for use in India.
- 10. Patent Rights** The Supplier shall indemnify the Purchaser against all third party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.
- 11. Performance Security** Within twenty-one (21) days of receipt of the notification of the Agreement award, the successful Proposer shall furnish to the Purchaser the performance security in the amount specified in the Annex A to this Agreement. The performance security shall be denominated in Indian Rupees, and shall be in the form of either an unconditional bank guarantee or irrevocable letter of credit issued by a nationalized/scheduled bank located in India in the format provided in the Documents for setting up framework agreement; or demand draft or a pay-order drawn in favor of the Purchaser. The performance security will be returned to the Supplier not later than thirty (30) days following the date of expiry of the Agreement and Purchase Orders issued under the Agreement, including any warranty obligations.
- 12. Inspections and Tests** Pre dispatch inspection (to check compliance to technical specifications defined in FA) may be carried out by the Purchaser or an agency appointed and paid by Purchaser for this purpose. Goods shall be dispatched only after receipt of satisfactory inspection report and communication to this effect by the End Implementing Agency/ Inspection Agency.
- 13. Packing** The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Purchase Order.
- 14. Delivery and Documents** Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Purchase Orders. The shipping and/or other documents to be furnished by the Supplier are (a) two originals and two copies of the Supplier's invoice, showing Purchaser, the Agreement number, Purchase Order number; Goods' description, quantity, unit price, and total amount. Invoices must be signed in original and stamped or sealed with the company stamp/seal; (b) two copies of delivery note showing Purchaser's name and delivery through to final destination as stated in the Purchase Order; (c) one original of the manufacturer's or Supplier's Warranty certificate covering all items supplied; and (d) copy of the Certificate of Inspection furnished to Supplier by the nominated inspection agency (where inspection is required).

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<b>15. Insurance</b>	The Goods supplied under the Purchase Orders to be issued under the Agreement shall be adequately insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery.
<b>16. Transportation</b>	The price indicated in Purchase Orders shall include the cost of transportation, including insurance, to the consignees indicated in the Purchase Order.
<b>17. Incidental Services</b>	<p>Following incidental services are required, the price of which is included in the CAMC rates.</p> <ul style="list-style-type: none"> <li>(a) Annual Maintenance for the supplied Goods, for a period of 2 yrs after the expiry of warranty period, provided that this service shall not relieve the Supplier of any warranty obligations under this Agreement; and</li> <li>(b) Training of the Purchaser's personnel, at the Purchaser's site, in assembly, start-up, operation, maintenance and/or repair of the supplied Goods.</li> </ul>
<b>18. Warranty</b>	<ul style="list-style-type: none"> <li>(a) The Supplier warrants that the Goods supplied under this Agreement are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Agreement. The Supplier further warrants that all Goods supplied under this Agreement shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods. This warranty shall remain valid for 12 months after the Goods have been delivered to and accepted at the final destination indicated in the Purchase Order unless a different warranty period is indicated in technical specifications.</li> <li>(b) The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, within the period of 48 hours and with all reasonable speed, repair or replace the defective Goods or parts thereof, without cost to the Purchaser. If the Supplier, having been notified, fails to remedy the defect(s) within the period of 48 hours, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Agreement.</li> </ul>
<b>19. Payment</b>	Hundred (100) percent of the Price of Goods received under each Purchase Order shall be paid by EIA within thirty (30) days of receipt of the Goods upon submission of invoice and other documents described in Clause 14 of this Agreement.
<b>20. Prices</b>	Price quoted by the Suppliers shall be fixed and firm for the duration of this Framework Agreement and Purchase Orders, including any extensions.
<b>21. Amendments</b>	Any variation or modification to this Agreement or the Purchase Orders shall be made only by written amendment signed by the parties.
<b>22. Assignment</b>	The Supplier shall not assign, in whole or in part, its obligations to perform under this Agreement, except with the Purchaser's prior written consent.
<b>23. Delays in the Supplier's Performance</b>	Delivery of the Goods and performance of related Services shall be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Purchase Orders. If at any time during performance of the Purchase Order, the Supplier should encounter conditions impeding timely delivery of the

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Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration, and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Purchase Order.

**24. Liquidated Damages**

Subject to Clause 23, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Purchase Order, the Purchaser shall, without prejudice to its other remedies under the Agreement, deduct from the Purchase Order Price, as liquidated damages, a sum equivalent to 0.5% of price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the 10% of the Purchase Order price. Once the maximum is reached, the Purchaser may consider termination of the Agreement or the Purchase Order pursuant to Clause 25.

**25. Termination for Default**

The Purchaser, without prejudice to any other remedy for breach of the Agreement, by written notice of default sent to the Supplier, may terminate this Agreement in whole or in part:

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Purchase Order, or within any extension thereof granted by the Purchaser; or
- (b) if the Goods do not meet the Technical Specifications or registration requirement (if any) stated in the Agreement; or
- (c) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in Clause 7, in competing for or in executing the Agreement; or
- (d) if the Supplier fails to perform any other obligation(s) under the Agreement.

In the event the Purchaser terminates the Agreement in whole or in part, pursuant to this Clause, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services.

**26. Termination for Insolvency**

The Purchaser may at any time terminate the Agreement by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent.

**27. Termination for Convenience**

The Purchaser, by written notice sent to the Supplier, may terminate the Agreement or the Purchase Order, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Agreement or Purchase Order is terminated, and the date upon which such termination becomes effective. The Goods that are already supplied before the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the terms and prices described in the Agreement and the Purchase order.

**28. Dispute Resolution**

Any dispute arising out of the Agreement, which cannot be amicably settled between the parties, shall be referred to adjudication/arbitration in accordance with the Arbitration and Conciliation Act of 1996 of India. The venue of

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adjudication/arbitration shall be Chennai.

**29. Applicable Law** The Agreement shall be interpreted in accordance with the laws of Union of India.

**30. Notices** Any notice given by one party to the other pursuant to this Agreement shall be sent to the other party in writing. The Purchaser's addresses for notice purposes is:

Executive Director, National Instructional Media Institute (NIMI), Post Box No.3142, CTI Campus, Guindy Industrial Estate, Guindy. Chennai-600032. Telephone:044-22500256 Fax No. :044-22500791

The Supplier's addresses for notice purposes is:

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

Telephone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

**31. Taxes and Duties** The Supplier shall be entirely responsible for all taxes, duties, VAT, octroi, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

FOR THE PURCHASER

FOR THE SUPPLIER

Signed by \_\_\_\_\_

Signed by \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

## ANNEX A: Schedule of Requirements

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

### Price Schedule/DELIVERABLES- PACKAGE-2

1	Framework Agreement for additional SITs	Technical specification for goods s in Annexure 1 (check the specific point for each good	Estimated Qty. As Under	Tentative Delivery Schedule	Likely consignees	Proposed Security(INR Lakh)	Performance Security(INR Lakh)	Agreed Unit Price
1.1	1.2m Ku-Band Antenna with Mount and Feed	3.1	675		State Govts.	20.00 for entire items	200.00 for entire items	
1.2	PLL LNB	3.2	675		State Govts.			
1.3	BUC (4 Watts)	3.3	675		State Govts.			
1.4	Transmit Receive IF Cable	3.4	675		State Govts.			
1.5	IDU	3.5	675		State Govts.			
1.6	VOIP System	3.10	675		State Govts.			
17	Desk Top PC	3.6	**		State Govts.			
18	Microphone	3.7	**		State Govts.			
19	Webcam	3.8	**		State Govts.			
20	EthernetSwitch	3.9	**		State Govts.			
21	Display TV(~42")	3.11	**		State Govts.			
22	UPS(2KVA) and batteries for minimum 1 hr. backup	3.12	**		State Govts.			
	*							
	*							
	* Any additional item/subsystem which bidder proposes for smooth functioning of system (Please fill in the blank column)							

Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT XXXX, OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.

**\*\* These items may be ordered by State Govts. from the bidder or from other sources. So unit cost may be specified. This cost will not be considered for evaluation.**

Note: BIDDERS MAY NOTE THAT THE REQUIRED QUANTITY AND CONSIGNEES INDICATED ABOVE ARE TENTATIVE ONLY. ITEMS IN PACKAGE -2 WILL FURTHER BE SPECIFIED IN THE INDIVIDUAL PURCHASE ORDERS TO BE ISSUED BY THE END IMPLEMENTING AGENCIES NAMELY STATE GOVTS. THEY ARE LOCATED IN DIFFERENT STATES OF INDIA.

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

## Price and Completion Schedule- PACKAGE-2 Related Services & CAMC

S.No.	Framework Agreement for Package-2 Related services and CAMC	Estimated Qty. As Under	Tentative Delivery Schedule	Likely consignees	Proposed Security(INR Lakh)	Performance Security(INR Lakh)	Agreed Unit Price
1	Installation and Commissioning Charges and training charges if any(Accessible Area)	560		State Govts.		40.00 for entire items	
2	Installation and commissioning Charges and training charges if any(In-Accessible Areas)	100		State Govts.			
3	Installation and commissioning charges and training charges if any(Island Areas)	15		State Govts.			
4	Additional site visits for accessible areas	560		State Govts.			
5	Additional site visits for in-accessible areas	100		State Govts.			
6	Additional site visits for island areas	15		State Govts.			
7	CAMC for the above for two years after expiry of warranty period	675		State Govts.			
8	CAMC for Desktop PC, Display TV, Microphone, Webcam, Ethernet switch and 2 KVA UPS for two years after expiry of warranty period	**					
	*						
	*						
	* Any additional item/subsystem which bidder proposes for smooth functioning of system (Please fill in the blank column)						

Note: IF ANY OF THE ITEMS ARE NOT REQUIRED, THE UNIT COST FOR THAT ITEM MUST BE CROSSED OUT XXXX, OTHERWISE IT WILL BE ASSUMED THAT THE ITEM COSTS ARE INCLUDED IN THE TOTAL COST.

Note: BIDDERS MAY NOTE THAT THE REQUIRED QUANTITY INDICATED ABOVE ARE TENTATIVE ONLY. ITEMS IN PACKAGE -2 WILL FURTHER BE SPECIFIED IN THE INDIVIDUAL PURCHASE ORDERS TO BE ISSUED BY THE END IMPLEMENTING AGENCIES NAMELY STATE GOVTS. THEY ARE LOCATED IN DIFFERENT STATES OF INDIA.

**\*\* These items may be ordered by State Govts. from the bidder or from other sources. So unit cost may be specified. This cost will not be considered for evaluation.**

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

# Format of Purchase Order

Framework Agreement Ref. No.

Dated

Purchase Order Ref. No.

To

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dear sirs,

**Sub.: PURCHASE ORDER FOR SUPPLY OF \_\_\_\_\_**

With reference to above Framework Agreement, which shall be fully incorporated herein, you are requested to supply the following goods and associated services subject to terms and conditions mentioned in above referred framework agreement:-

SI No.	Item	Qty	Delivery period	Consignees	Agreed Unit Rate	Total Price
1	Rate Contract for additional SITs	As Under				
1.1	1.2m Ku-Band Antenna with Mount and Feed	**				
1.2	PLL LNB	**				
1.3	BUC (4 Watts)	**				
1.4	Transmit Receive IF Cable	**				
1.5	IDU	**				
1.6	VOIP System	**				
	*	**				
	*	**				
	*Any other subsystem(s) or Item(s) proposed by Bidder to meet the requirement(Please fill in the blank columns)					
2	Installation and Commissioning Charges and training charges if any(Accessible Area)	**				
3	Installation and commissioning Charges and training charges if any(In-Accessible Areas)	**				



4	Installation and commissioning charges and training charges if any(Island Areas)	**				
5	Additional site visits for accessible areas	**				
6	Additional site visits for in-accessible areas	**				
7	Additional site visits for island areas	**				
8	CAMC for the above for two years after expiry of warranty period	**				
	*					
	*					
	* Any additional item/subsystem which bidder proposes for smooth functioning of system (Please fill in the blank column)					

\*\* The exact number required will be filled by the State Govts.

Unit price mentioned above is inclusive of After-sales services/extended warranty, training of the staff in operation/maintenance of equipment, all other incidental services, taxes and duties.

TOTAL PURCHASE ORDER PRICE (inclusive of all) XXXXXXXXXXXXXXX

Other terms and conditions are mentioned in the Framework Agreement referred above.

(Purchaser or Purchaser's Representative)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tel. No. : \_\_\_\_\_

Fax No. ; \_\_\_\_\_

## ANNEXURE -3 – SITES OF SITS

### Sites of SITS with 2.4 metres Antenna

Sl no	Name of Central Field Institute	Location
1.	Advanced Training Institute (ATI)	Mumbai
2.	Advanced Training Institute (ATI)	Kanpur
3.	Advanced Training Institute (ATI)	Howrah
4.	Advanced Training Institute – Electronic Process Instrumentation (ATI-EPI)	Hyderabad
5.	Advanced Training Institute (ATI)	Chennai
6.	Advanced Training Institute (ATI)	Ludhiana
7.	Advanced Training Institute (ATI)	Hyderabad
8.	National Vocational Training Institute for Women (NVTI)	Noida
9.	Advanced Training Institute – Electronic Process Instrumentation (ATI-EPI)	Dehradun
10.	Central Staff Training & Research Institute (CSTARI)	Kolkata
11.	Apex Hi Tech Institute	Bangalore

### Sites of SITS with 1.2 metres Antenna

Sl no	Name of Central Field Institute	Location
1.	Advanced Training Institute (ATI)	Haldwani
2.	Advanced Training Institute (ATI)	Calicut
3.	Advanced Training Institute (ATI)	Chowdhar
4.	Advanced Training Institute (ATI)	Jodhpur
5.	Regional Vocational Training Institute for Women (RVTI)	Indore
6.	Regional Vocational Training Institute for Women (RVTI)	Mumbai
7.	Regional Vocational Training Institute for Women (RVTI)	Bangalore
8.	Regional Vocational Training Institute for Women (RVTI)	Thiruvananthapuram
9.	Regional Vocational Training Institute for Women (RVTI)	Panipat
10.	Regional Vocational Training Institute for Women (RVTI)	Allahabad
11.	Regional Vocational Training Institute for Women (RVTI)	Vadodara
12.	Regional Vocational Training Institute for Women (RVTI)	Jaipur
13.	Regional Vocational Training Institute for Women (RVTI)	Meghalaya
14.	Regional Vocational Training Institute for Women (RVTI)	Kolkata
15.	Regional Vocational Training Institute for Women (RVTI)	Shimla
16.	Regional Vocational Training Institute for Women (RVTI)	Rajpura
17.	Regional Vocational Training Institute for Women (RVTI)	Trichy
18.	Regional Vocational Training Institute for Women (RVTI)	Agartala
19.	Regional Vocational Training Institute for Women (RVTI)	Patna
20.	Foreman Training Institute (FTI)	Jamshedpur
21.	National Instructional Media Institute (NIMI)	Chennai

*The location for the remaining 3 sites will be NIMI, Chennai.*