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No D/21013/30/3369/26.2.2016/PW CF No: 3374864
GOVERNMENT OF INDIA
MINISTRY OF HOME AFFAIRS
(PROCUREMENT WING)
JAISALMER HOUSE, 26 MAN SINGH ROAD,
NEW DELHI – 110 011

Dated, the 10 April, 2017

CORRIGENDUM NO-7
TO GLOBAL TENDER ENQUIRY (GTE)
No D/21013/30/3369/26.2.2016/PW DATED 15.12.2016

Sub: Global Tender Enquiry (GTE) of even No dated 15.12.2016 floated on cpp portal and schedule to be opened on 12.04.2017 (Tech Bid) for procurement of stores for Up gradation and expansion of Satellite based (C-Band) Communication Network (POLNET) of DCPW.

In the subject GTE, following amendment are hereby authorized in the tender documents. These amendments, wherever it is defined in the text of the tender documents may be treated as amended accordingly:-

1.1 **Commercial issues:**

S No	For	Read
1	Clause 2 (b) (ii) at P-7 of GTE:	
	Existing Clause: Tenderers should be either original equipment manufacturer (OEMs) of proposed equipment/ systems or an authorized agent of such OEMs. In case of authorized agent, enlistment certificate as per DGS&D should be enclosed with bid documents.	**Amendment:** (a) The project shall be awarded to a single bidder and network shall be implemented on turnkey basis with end to end solutions. (b) For this tender OEM (original Equipment Manufacturer) means original Equipment Manufacturer of VSAT equipment. (c)Indian agents on behalf of the OEM or OEM itself can bid but both cannot bid simultaneously. (d) An agent can submit a bid on behalf of single OEM only.
2	Clause 3 (i) at P-9 of GTE	
	Existing Clause: The Buyer will have the right to award contracts to different Bidders for being lowest in particular items. The Buyer also reserves the right to do Apportionment of Quantity, if it is convinced that Lowest Bidder is not in a position to supply full quantity in stipulated time.	**Amendment:** The project shall be awarded to a single bidder and network shall be implemented on turnkey basis with end to end solutions.
3	**Payment Schedule** Clause 5 (ii) at P-27 of GTE	
	Existing Clause: 2. 20% payment will be made on successful installation/ commission and training of equipment as a whole.	**Amendment:** 2. 20% payment will be made on successful installation/commission and training of equipment as a whole. Payment of 100 % service charges towards installation/ commissioning & operation of Hub will be released along with 20% payment on pro-rata site basis after completion of work.

4	Mode of Payment Clause 5.(iii) (a) at P-27 of GTE	
	Existing Clause: **To Foreign Seller:** The payment to the foreign supplier/contractor will be made through direct Electronic banking system (EBS). Seller will provide bankers details.	**Amendment:** **To Foreign Seller:** The payment to the foreign supplier/contractor will be made through irrevocable letter of credit (L/C) opened through State Bank of India subject to L/C charges being borne by vendor. Seller will provide bankers details.
5	Inclusion of clause "Statutory variation in taxes" below Para 12 of GTE at P-12	
	Existing Clause: 12 Price The price quoted....of this GTE.	The following clauses are added to the existing clause 12 at P-12 of GTE. **Addendum:** Duties and Taxes: 12.1 The tenderer shall pay all non-Indian taxes, duties, and levies, lawfully assessed against the Purchaser or the tenderer in pursuance of the contract. 12.2 All the duties and taxes paid by the Supplier in India will be reimbursed as per actual. No claim, on account of increase in cost of the raw materials due to increase of taxes or duties, will be entertained. 12.3 The tenderer should indicate tentative duties and taxes in the proforma as applicable on the date of opening of technical bids. However, reimbursement towards duties and taxes shall be made as per actuals and statutory variations in taxes and duties shall be allowed during the original delivery period as agreed in terms of the Contract. The Purchaser shall get the benefit if duties and taxes get reduced and pay extra if they increase. However, the variations shall not apply to any duties or taxes on the raw material. 12.4 The Purchaser will not be liable to any claim on account of fresh imposition and / or increase of statutory duties or taxes on the raw materials and / or components used directly in the manufacture of the contracted stores taking place during the pendency of the contract. 12.5 If Purchaser is required by Indian Law to deduct or withhold any other taxes or other amounts, the gross amount payable by Purchaser shall be paid after making such deductions or other withholdings. Necessary certificate regarding the deductions so made will be issued by the Purchaser. 12.6 If the Purchaser finds the duties and taxes are mentioned incorrectly, the Purchaser reserves the right to change it to the values considered appropriate and the price quoted by the tenderer shall be adjusted accordingly. If the Purchaser feels that the duties were mentioned incorrectly to gain unfair advantage the tender shall be liable to be rejected. 12.7 Provision mentioned above in Para No 12.1 to 12.6 are effective for the total supplied items including items for which rates are freeze for Rate Contract.
6	**Discounted cash flow method (NPV) for evaluating CAMC charges for L-1 Status**	
	Existing Clause: **3**(c) at P-8 of GTE	The following is inserted at clause 3 (c) line No 5 at P-8 of GTE after the ward "after warranty period":- **Addendum**: The buyer will evaluate the offers received by adopting discounted cash flow (NPV) method with a discounting rate of 9% as per formula given at **Annexure- B** of this corrigendum.

7	Other clarification of Pre bid meeting:-	
	PRE BID QUERIES	CLARIFICATION
7.1	clause 2 at P-7	
	To clarify that Consortium partner will be allowed to submit individual bill for their portion of work?	Only lead partner
7.2	Can same OEM form consortium with different partner? Whether lead partner or all consortium partner need to be registered in India.	No.
7.3	clause 3 c. 3 at P-8	
	To clarify 7 Years AMC for BOQ (1700 sites) will be considered?	7 years CAMC for 1700 sites will be considered.
7.4	EMD Clause 11 (a) at P-11	
	PSUs are to be exempted for submission of EMD	Not exempted.
7.5	Provide bankers details to process EMD in form of BG.	Banker's details not required if EMD in form of BG (prescribed format as per Appendix-7) is submitted.
7.6	Regarding Test certificate , Clause 13 A (xv) Page- 13	
	Test certificate may be excluded in technical bid.	Specifications may be provided in technical bid and test certificate with delivery wherever applicable.
7.7	Clause 25. xiii at P-16:	
	Authorize uploading of multiple files less than 2 Mb	For any queries regarding e-tendering process, bidder are requested to contract over phone: 24x7 help desk No 120-4200462, 0120-4001002 Mobile: +91 8826246593 and email: support-eproc@nic.in. In this regard clause 25 (xxx) at P-18 may also refers.
7.8	Clause 1(a) at P-24 Delivery Period w.r.t target date of delivery.	GTE conditions prevail. However, necessary documents required for import/installation of the equipment if any shall be provided by user organisation
7.9	Clause 11.1 at P-30:	
	Will Custom duty exemption certificate be provided by the customer?	If Applicable.
7.10	Request for sharing of contract format	Will be shared with L-1 bidder if found necessary.

1.2 **Technical issues:**
Clarification of technical issues is attached as per details given at **Annexure A** of this corrigendum.

All other terms and conditions will remain unchanged. The bidders may submit their bids accordingly.

Encl (as above)

(Rajender Kumar)
DDG (Proc)
For and on behalf of The President of India
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Annexure-'A'

Clarification on technical issues (Main)

S. No.	Clarifications
1.	Total Network is to be implemented on turnkey basis by a single bidder with end to end solutions.
2.	Network shall operate in C Band :- Up link 5.925 to 6.425 GHz Downlink Link 3.7 to 4.2 GHz
3.	Bidders have to ensure during refurbishment of the 11 Mt Antenna at Hub, the NOCC required parameter are to be maintained.
4.	Bidder may propose SSPA / TWTA at Hub
5.	In the network, DVB-S2 may not be mandatory in Return Channel.
6.	Hub Baseband equipments shall operate at IF level.
7.	The out-route should be configurable from 2 Mbps to 45 Mbps. The in-route should be configurable upto 2 Mbps. Hybrid Site should be able to communicate with the other Hybrid Site upto 4 Mbps.
8.	05 DTE (Desktop Version) are required to be supplied at Hub. The same may be offered in Price Bid.
9.	The operating temperature for offered Indoor equipments 0° C to +45° C and for Outdoor equipments: -10° C to 50° C Hub Indoor Baseband equipments should operate on 10 ° C to 30 ° C.
10.	VSAT System should support BPSK, QPSK, 8-PSK or better modulation schemes. FEC 3/4 may not be treated as mandatory.
11.	At Hub bidder has to offer equipment for video conferencing HD quality with 40 concurrent Sites. At Mesh Sites Bidder has to offer equipment for video conferencing HD quality with concurrent 05 Sites. Industry standard rack mountable options may be offered, if required. All sites should be able to participate in Video conferencing. Necessary license, hardware, software should be provided accordingly and should be expandable to 3000 users.
12.	Video Input for Video Conferencing Equipment for PC interface may be DVI (Digital Video Interface) / HDMI / VGA or any other standard interface.
13.	Video ports in IP Phones may not be treated as mandatory.
14.	Bidder may propose IP Phones operable either on PoE (Power over Ethernet) or 220V AC Mains to meet the network requirement in totality.
15.	For the UPS at HUB, minimum 4 module of 5 KVA are required. Bidder should offer for best solution considering total power requirement of supplied equipments with zero downtime redundancy.
16.	Bidder has to provide 5 Fly away terminals. The system should be highly portable, compact, light-weight, and easily assemblable in short time with minimum manpower. The antenna reflector should be foldable/segmented in 2 or 4 piece in light weight material like glass fibre reinforced with compact Pedestal. The system should have seamless connectivity of all services of the network with other terminals and system should operate on mains/battery. The bidder may quote the same in the Price Bid Format as a separate item.
17.	At Hub site bidder has to offer interface for Telephone Exchange (EAPX) and WAN port.

18.	In the Star and Hybrid locations, Tracking mechanism for antennas will be manual.
19.	In VSAT Modems, serial port may be treated as standard USB port.
20.	In the Hybrid Sites, compatible hardware should be able to support both Star and Mesh services.
21.	At Star and Hybrid locations, Bidders may offer either RFT or BUC.
22.	Training is to be conducted at Consignee location i.e. at Hub, VSAT Star Site and Hybrid Site. At Hub, training is to be conducted for two batches each of 15 officials for operation and first level maintenance. Training shall be for all major equipments
23.	TEC IR documents are applicable in those conditions only in which TEC IR prevails as on date.
24.	Sites may be accepted as per the test procedure finalized with mutual consent of bidder and buyer; the site will be treated accepted when passes all test.
25.	Any Additional equipment to meet the network requirements may be offered and same may be included in Price Bid.

Page No.	Clause No.	Clause	Query Raised / Remarks: -	DCPW/Procurement Wing Comments
6	2	Eligibility Conditions	Eligibility of Important Vendor (Amplifiers) Thereshould be more than two functional service centre in India functional for atleast three years. OEM to provide certificate to that effect with details of name , location , contact persons and years since functional. Amplifiers being critical components and quantity being large it is advice to have such a request in RFP.	GTE Conditions prevails
6	E	The tenderer are required to bid for entire quantity of stores as specified in schedule of requirements at Section-II at Appendix-2 of GTE.Bidders are also advised to visit and examine the site and its surroundings to familiarize himself of the existing network facility and environment and shall collect all other information which may require for preparing and submitting the Bid and entering into the contract. Claims and objections due to ignorance of existing conditions or inadequacy of information will not be considered after submission of Bid and during implementation. Bidders desired to have site visit may seek due permission from Director, DCPW in this regard.	Sir, Please let us know the nodal officers who can facilitate joint survey purpose of bidding. SIR (Site Investigation Report): Please share existing location details for us to understand and make site visit accordingly	Director, DCPW, Block No. 9, CGO Complex, Lodhi Road, New Delhi-03
7	2.b.iv	The Bidder should have sufficient nos.(minimum 5, located at north, south East, West and North East part of Country) of Technical support centres in India covering all States/UTs for repair and maintenance support.	Please clarify, which all states fall under south east	Refer Page 7 (b) (iv)

7	2.b	The Bidder should have sufficient nos. (minimum 5, located at north, south East, West and North East part of Country) of Technical support centres in India covering all States/UTs for repair and maintenance support. Bidders must furnish the detail of all service centres available as on date in Technical Bid.	'Kindly ammend the clause as The Bidder/OEM should have sufficient nos. (minimum 5, located at north, south East, West and North East part of Country) of Technical support centres in India covering all States/UTs for repair and maintenance support. Bidders must furnish the detail of all service centres available as on date in Technical Bid.	GTE Condition prevails
24	1.a	THE DELIVERY PERIOD FOR THE STORES:Contractor shall follow the following schedule for executing the contract: Please note that Contract can be cancelled unilaterally by the Buyer in case items are not received within the contracted delivery periodas per schedule given below: Refer S.No.2	As per our understanding, delivery time of equipment's at sites mentioned in RFP is too less. It requires more days to deliver the items at sites. Therefore, it may requested to considered the following:- 1. Date of signing the contract (T) 2. Supply and delivery of equipments at sites: T+240 days 3. a. Installation of Hub equipment at Delhi. b. Commissioning of POLNET Hub. c. Installation of DCPW VSATs. d. Commissioning of DCPW VSATs. d. Commissioning of DCPW VSATs. {T+330} 4. Site acceptance Test of the Network by DCPW: T+360 days	Contract/Agreement letter will be shared with the short listed bidder , rest GTE condition prevails
24	2	RATE CONTRACT (RC): The L-1/negotiated rates quoted for Deliverable equipment and services at (i) Hybrid site (Mesh & Star Topology) and (ii) Star Topology site mentioned in schedule of requirement mentioned at Section-II of Appendix-2 will be frozen for 24 months from the date of finalization of contract for providing upgradation of POLNET Network at State Police, UT Police and CAPFs location.	Request to decrease the rate contract to 1 year	GTE Conditions Prevail

24	2.1	Initially DCPW, Ministry of Home Affairs, New Delhi will place supply order for Central HUB and their 110 VSATs location across the country. For remaining quantity/stores, States Police/UTs Police/CAPFs organization (as per list provided at Appendix 24 of this GTE) will place supply order from their end as on requirement basis from time to time within the validity period of price bid i.e. 24 months.	It is requested to provide bulk order for saving on time for import and necessay clearances from WPC, SACFA etc. for timely completion of the project. Also, for those stores ordered during the two year rate contract, please mention the period from which the warranty and CAMC be treated as final and effective and from which date	From the date of signing of ATP for each site.
25	3.1	3.1 The Seller has to provide free training at the time of installation and commissioning to technical officials at consignee"s location as per details given below to the entire satisfaction of the consignees	1. It is mentioned that system Administrations and Management at OEM location to sufficient numbers of officials as it has to be carried out at OEMS place, mostly abroad. Kindly, also confirm boarding & lodging charges are to be borne by the purchaser. 2. For Hub: Nos. of Officials is not mentioned for the training Program of operation & management of Hub. Please confirm the Nos. of Officials for training at Hub. 3. With respect to training, requirement of training at each remote site to be comfirmed.	1. At Consinee location le at Hub , VSAT Star Site and Mesh Site 2. At Hub two batches each of 15 official for operation and first level maintenance 3. Training on all major equipments
25	4	Stores Inspection and Acceptance -4.(ix)	(ix) The delivery, installation, commissioning & integration shall not be deemed to have been completed unless all the requirements are not fulfilled as per the Tender Document and systems are accepted by the purchaser Acceptance Test Procedure should be decided on mutual agreeable basis. Please confirm.	The site may be accepted as per the test procedure finalized with mutual consent of bidder and buyer, the site will be teated accepted when passes all test. Rest GTE condition prevails.
26	4.2.ii	The Supplier shall provide standard test procedure detail in respect of each type of equipment and the complete system after installation at site and prepare a test report in respect of each individual equipment. This shall be compared with the factory test report supplied by Supplier to ensure that there is no deterioration in the equipment parameters during storage, transportation and installation.	The standard Testing procedure clause does not apply to Video Conferencing Equipment. Remarks: - For Video Conferencing Equipments, the testing procedures carried out in the factory before supply of the equipment to ascertain quality and to check functionality. There are no test procedures followed in the field at the time of installation.	GTE Condition prevails

27	7.16	Whenever the requirement of change over to new satellite from the existing arises during warranty and CAMC period, the bidder should undertake the migration work to shift to new satellite with minimum down time of the network restoring all network services with immediate effect.	Pls confirm that the migration related work is required at the HUB level only covered under this clause, Any filed terminal work shld be allowed to be charged charged extra.	During the the period of Warranty and CAMC
28	7.8	The SELLER is required to provide Hardware & Software up-gradations from time to time, at mutually agreed terms. During warranty all software updation/ up-gradation shall be provided free of cost to BUYER.	As per last Para of Warranty, it is mentioned that "the Seller is required to provide Hardware & Software up-gradations from time to time" we understand that software update & Patches will be provided which will be available free of cost from OEM . Please confirm.	All necessary updation/ upgradation have to be ensure by vendor during warranty and post warranty period as a part of CAMC.
28	7	Period of Guarantee/ Warranty 3 Years from the date of successful installation/ commissioning of equipment and training to the entire satisfaction of the consignee. The successful bidder shall Operate & Maintain the HUB equipment for a period of 1 year from date of commissioning. The successful bidder shall also provide warranty for 3 years from the date of commissioning. After the expiry of warranty Annual Maintenance for the next 7 years shall be provided by successful bidder	As regards 3 years warranty on the UPS batteries, it is requested to amend the battery warranty to 2 years, battery being a consumable item. Also, Battery life is a function of no. of charging/ discharging cycles and depth of discharge on each cycle & hence cannot be predicted accurately. Therefore it is requested to amend the battery warranty to 2 years.	GTE Condition prevails

28	7.1	7.1 The successful bidder shall Operate & Maintain the HUB equipment for a period of 1 year from date of commissioning. The successful bidder shall also provide warranty for 3 years from the date of commissioning. After the expiry of warranty Annual Maintenance for the next 7 years shall be provided by successful bidder. During the period of warranty and AMC of Hub, the successful bidder should deploy a qualified resident engineer in the HUB on 24x7 basis for ensuring 99.9% uptime availability of HUB.	The Seller shall agree to provide Product Supportfor life long period of Network. The seller will stock the necessary spares for 10 years from the date of commissioning of all supplied items. After period of 10 years seller will suggest to Purchaser the list of spares to be purchased by Purchaser and ensure availability of spare beyond period of 10 years.	No clarification required
29	9.1	Preventive Maintenance Service: The Seller will provide aminimum of two Preventive Maintenance Service visits during a year to the operating base to carry out functional check-up"s and minor adjustments/ tuning as may be required.	Please indicate whether preventive maintenance required at HUB only.	No clarification required
32	1.1.3	TDMA/DVB-S network supporting 128 VSATs through in-routes @ 512 Kbps and out-routes @ 2.5 Msps in star configuration for voice, data, messaging and fax supporting TCP/IP protocols. The terminals consist of 1.8 m antenna and 2 W RFT.	Please clarify whether outroutes @ 2.5 Msps or 2.5 Mbps is existing	No clarification required

33	1.3.v	40 simultaneous Video conferencing call selectable from 512 Kbps to 2 Mbps.	Please confirm if 40 simultaneous calls refers to concurrent conference among 40 Sites. Also please clarify the Video Resolution - High Definition 720p or Full High Definition 1080p of 40 Simultaneous calls. Remarks: - We suggest to consider conference for 40 sites at Full HD 1080p for better Video Clarity. 2. At Clause 4.10.1-5B / Page 46, It is mentioned that MCU shall support 5 Party video conference call. However at clause 1.3(v) / Page No. 33, 40 Nos. of simultaneous video conference call are mentioned. It is mentioned at Clause 2.6.5/ Page 41 that all the multi party video conferences are to be initiated from hub only. As MCU is required for Multi Party video conference calls, Therefore it is understood that the MCU hardware & software at hub should be provisioned to support 40 nos. of simultaneous video conferences. Please confirm and clarify. 3. Please confirm if 40 simultaneous calls refers to concurrent conference among 40 Sites. Also please clarify the Video Resolution - High Definition 720p or Full High Definition 1080p of 40 Simultaneous ca	GTE Condition prevails
33	1.3	Directorate of Coordination Police Wireless, MHA is considering to upgrade the existing POLNET HUB of Satellite based Communication Network (POLNET) located at Samanvay Sadan, New Delhi to DVBS-2 technology (or its latest version) and MFTDMA with Carrier in Carrier(CnC) feature for better efficiency and optimal use of spectrum with the initial capacity for 1500 VSATs and expandable to 3000 VSATs. 110 VSATs at State/UT capital and DCPW locations are to be provided. The VSATs of CAPFs and State Police organizations are required to be provided in a phased manner.	It is understood that traffic mentioned below is only to be considered for calculation of Hardware at Hub along with transponder requirements: 40 Simultaneous Video Calls @ 512 Kbps = 20 Mbps 150 Simultaneous Voice Calls @ 16 Kbps = 2.4 Mbps Total Traffic = 20 + 2.4 = 22.4 Mbps For FTP services from VSAT @ 2 Mbps and Messaging services @ 16 kbps, Nos. of simultaneous sessions are not mentioned. Therefore it is assumed that Messaging Services & FTP services shall also share same 22.4 Mbps traffic. Please confirm & clarify.	No clarification required

33	1.3.1	Supply, Install, Integrate and Commission DVB S2 technology (or its latest version) and FTDMA Hub with carrier in carrier (CnC) feature at New Delhi to accommodate 1500 remote VSAT initially and expandable to 3000 remote VSAT.	1. It is understood that Hardware & Soi...are at Hub to be planned for traffic of 22.4 Mbps (as mentioned in above clarification) and 3000 Nos. of VSAT site. Software Licenses (if any) required to be provisioned for 1500 nos. of VSAT sites only. Please confirm & clarify. 2. Hub equipment comes with MFTDMA technology. Carrier in Carrier Technology requires a separate equipment and hence a separate line item may please be added in the BOM if CnC is required as a compulsory feature. It will help all the bidders to come on a level playing field techno-commercially.	1. 1500 may be amanded as 1700. 2. Any Additional equipment including CnC, TCP Accelerator Etc to meet the network requirements may be offered and same may be included in Price Bid
33	1.2	The Upgradation of Satellite based Communication Network is offerd through adopting DVB S2 or its latest version and MFTDMA open standard based and state-of-the-art proven technology by means of Hardware & software Upgradation/ addition/ modification at Hub & Remote.	We request POLNET to clarify that is it allowed to reuse the existing VSAT and Hub components to upgrade the system or Bidder has to provide all the new hardware for Hub and VSATs. We request to modify the clause that the Hub and VSATs upgradation should be achieved by supplying and installing new hardware only and the existing hardware cannot be Re-used except the Hub Antenna.	refer page no 33, Scope of work
33	1.3.3	Refurbish existing 11 meter Antenna by suitable replacement of waveguide, Antenna Control &auto tracking unit, Elevation Motors, Azimuth Motors, feed , ITU recommmended painting etc. The antenna system should be upgraded to automatically steerable to look towards any satellite visible on India.	1. IF NOCC is required post refurbish and upgrade of antenna and is it part of bidders scope ?. Pls clarify 2. IF NOCC is required post refurbish and upgrade of antenna and is it part of bidders scope ?. For supplying new feed, reflector & sub reflector geomtery to be provided mandatorily, without which Feed cannot be deisgned and manufactured. What is the required Frequencies & what are the frequencies the antenna is working at present? Whether the existing antenna has NOCC/WPC/SACFA approvals? WPC & SACFA are in the scope of Purchaser only. NOCC also if required, will be in the scope of Purchaser however ECIL shall participate during NOCC. Making NOCC payments, obtaining time slot from NOCC, application for NOCC etc are in the scope of purchaser. What is the life of antenna structure & how many years have been completed so far.	1. refer page 34, clause 1.3.14 and Page 6 clause E . 2.Bidders are to ensure during refurbishment the NOCC required parameter to be maintained.

33	1.1.5	Outdoor Unit 11 mtr Antenna along with Tracking mechanism, 200W SSPA in 1+1 configuration etc	Please provide the make, model and specifications for the 11 mtr antenna as this is important to make necessary arrangements with the OEM for refurbishment	Item has been supplied by M/s BEL, Ghazibad. Please ref. Page 6, clause E.
33	1.3.2	Supply, install and commission the new RF section consisting of SSPA, Up Converter, Down Converter and LNA along with standby units and integrate with the existing network at RF level.	Suggestion: Supply, install and commission the new RF section consisting of HPA with L Band , Down Converter and LNA along with standby units and integrate with the existing network at RF level. Remarks: - The standard in the data network is to use HPA with the L Band input as most of the data communication modem now a days comes with L Band out put. Amplifiers with L band input reduces cost, increases reliability without compromising performance	Hub Baseband equipments shall operate at IF level.
34	1.3.8	The bidder shall provide a. Configuration and No. of carriers required for return link to meet the requirement of the upgraded network and should be substantiated by RF link analysis. b. Occupied transponder bandwidth for each assigned return link. c. Maximum No. of carriers supported by the systems. d. No. of Corresponding demodulators at HUB. e. Transponder loading plan	From the information provided in "1.3 Scope of Work", required return link bandwidth can not be calculated. Kindly provide required bandwidth in terms of simultaneous bandwidth required by different applications per site and concurrency of active sites in network. or Minium/Maximum bandwidth per site and cocurrency. This will be required to calculate number of inbounds required and make sure that each vendor provides sufficient number of Demodulators at Hub.	1. Refer page no 33, Scope of work. Clause 1.3.8 2. The outroute should be configurable from 2 Mbps to 45 Mbps. 3. The inroute should be configurable upto 2 Mbps. 4. Mesh link should be configurable upt to 4 Mbps. 5. Rest GTE conditions remain same.
34	1.3.10	Supply, Install, Integrate and Commission Messaging Application Server for 3000 user Minimum.	It is understood that Messaging server hardware to be provisioned for 3000 users with 1 GB space for each user. Is it required to provision all 3000 software licenses initially? Please confirm & clarify.	No Clarifications Required
34	1.3.6	Star Remote VSAT should be able to transmit up to 2Mbps in Selectable steps. It should be able to receive up to 45 Mbps or better.	Please confirm that receive capability of 45 Mbps here refers to the "Capability of VSAT Modem to demodulate the OB carrier of upto 45 Mbps" and the IP throughput Receive processing Capacity of Individual VSAT would be only upto 2 Mbps.	No Clarifications Required

34	1.3.11	Supply, Install, Integrate and Commission of Voice (VOIP) server.	Number of users not specified. Please specify the requirement of Number of VoIP users	For all the offered equipments with at least scope for 50% expansion.
34	1.3.14	The successful bidder shall provide necessary support coordinate / liaison for obtaining clearances / licenses from DOT, NOCC, WPC respective authority.	Please confirm that all statutory payment as is requried to obtain permission / clearance shall be borne by customer.	Payemnt/ License fees shall be borne by the user organisation
35	2.1.2	Each In-route channel may be configurable up to 2Mbps in selectable Steps and out-route channel from 2 Mbps upto 45 Mbps or better without any change/addition in hardware	The Outbound and Inbound Capacity required has been specified in terms of "Mbps". The Outbound and Inbound Mbps would vary depending upon no. of factors, such as the Satellite, MODCOD used, coding used etc., So to keep everybody at the same level we suggest to specify the inroute and outroute capacity in terms of Msps. We suggest to specify "each Inroute channel can be configurable upto 2 Msps in selectable steps and out-route channel from 1.5 Msps upto 30 Msps or better". 30 Msps is sufficient enough to cover full 36 MHz transponder.	No Clarifications required
35	1.3.18	The scope of work shall include testing, bench marking, supply, packing, transportation, scheduling of transportation, transit insurance, delivery at sites, unloading, storage, job sitestorage insurance, any other services associated with the delivery of equipment and materials,installation, commissioning, providing warranty services and operational & maintenance training for the entire network and the items required for the functioning of the terminals with desired features at desired locations as per the technical requirements & specifications and schedule of requirements . The successful bidder will assume full responsibility of the complete system until final acceptance.	Please confirm that accetance would be site wise. Further, if system is put to use, it will be deemed system Acceptance. Please confirm.	The site may be accepted as per the test procedure finalized with mutual consent of bidder and buyer, the site will be teated accepted when passes all test. Rest GTE condition prevails.

35	1.3.19	The network shall meet mandatory requirement for VSAT network as per Telecom Engineering Centre (TEC) IR No. TEC/IR/SCB-08-03.OCT 2013. In addition, the network (and components) shall comply with applicable standards and protocols for various sub- systems and interfaces of International Telecommunication Union (ITU)/European Industry Association (EIA). All articles supplied shall strictly conform to the specifications, trademark laid down in the tender form and wherever articles have been required according to ISI/ISO/other specifications / certifications, those articles should conform strictly to those specifications/certifications.	Request to provide (TEC) IR No. TEC/IR/ SCB-08-03.OCT 2013.	Document may be obtained on payment basis from TEC.
36	2.1.12	Central Server/Servers for management of services viz. Voice, Data and Video.	Please confirm the number of Video Conferencing Endpoints which are required to be managed from the central location. Remarks: - Licenses for servers depends on the no of Video Conferencing Endpoints to be managed.	For all the offered equipments with at least scope for 50% expansion.
36	2.1.8	The bidder must offer suitable foolproof, industry standard encryption solution for the traffic over the satellite communication. The offerd Upgradation technology should have in built encryption system for ensuring communication security & also safe guarding the sensible information of Police from unauthorized. The details of the encryption scheme incorporated in the system should be given. In addition the offered technology should also be made compatible to external IP encryptors of indigenous make.	There are different encryption methods and schemes with different level of encryptions available. Kindly specify the level of encryption required. Most advance and widly used encryption method is AES-256.	1.Any Additional equipment including CnC, TCP Accelerator Etc to meet the network requirements may be offered and same may be included in Price Bid.

36	2.1.5	Out-bound and in-bound must be configurable with step sizes in 1 Ksps.	Majority of Satcom Baseband OEMs does not support step size of 1 ksps in Inbound. Please relook the specification.	Bidder may offer latest best suited industry standard.
37	2.1.19	Vendor should clearly indicate the capacity and capability of the servers/Routers at the hub to handle the network traffic. The details should be furnished in terms of different traffic slabs. TCP acceleration including web acceleration should be an integral part of Hub and VSAT and shall be transparent to the connected computers.	If customer intended to use external IP encryptors, inbuilt TCP acceleration available in Modems will not work as traffic is encrypted before reaching to Modems. Please confirm if External Hardware based TCP Accelarator needs to be supplied with Hub and Remotes.	Any Additional equipment including CnC, TCP Accelerator Etc to meet the network requirements may be offered and same may be included in Price Bid Format
37	2.1.22	GTE	Not all available satellite and IP devices in a Network supports IPv6. IPv6 is less popular and not used in Closed Networks due to complexity of Scheme used and IPv4 is sufficient for very large Closed IP network. We are requesting you to accept network with only IPv4 protocol and integration of IPv4 with IPv6 if it needs to be integrated with any external IPv6 network.	GTE Condition prevails
37	2.1.27	The new network technology provided at hub should be capable to integrate with other satellite and terrestrial networks.	Kindly specify the Terrestrial Network Interfaces at Hub and remotes which needs to be integration.	At Hub site bidder has to offer interface for Telephone Exchange (EAPX) and WAN port.

37	2.1.24	Single Hardware should be able to support both star and Mesh services at the desired sites.	1. We would like to suggest that Mesh operations for most of the VSAT network is not a preferred option now a days as the same functionality can be achieved in the STAR operations (through hub) as well even for the Latency Sensitive applications such as Voice & Video without any issues and without any degradation in user experience. 2.Also to support Mesh for the same data rate as compared to STAR, we need to put higher antenna size & BUC at VSAT. The large antenna will not only increase the Capex but also increase cost of the terminal tremendously including the high installation and maintenance cost for these terminals. 3. So we strongly recommend changing the requirements to STAR only Hub and VSAT system.	Single may be read as compaitable.
37	2.1.17	Replacement/Development of Communication Software to work on LAN interface having features for transmission of bilingual (Hindi and English) with provision of attachment of files. It should be user friendly with all the features i.e. inbox, outbox, sent box, various logs etc	Please elaborate on the requirement and confirm whether it is required at the Hub.	Refer Page 39, Clause 2.4
37	2.1.26	Detailed dialing and numbering plan for the each VSATs and all service including voice, data, messaging and video should be submitted	Dialing and number plan can be decided at the time of implementation and knowing the number of remote VSAT Terminals. Request to remove this clause	No clarification required
38	2.2.7	Ability to stream multiple streams of voice, video and data from both forward and return directions based on certain rules defined at the HUB.	Please clarify the requirement of multiple streams for video.	HUB should have facility to configure dianamically the Video/Voice/data link in PAMA or DAMA as per the requirement from point to pont or point to multi-point
38	2.2.9	NMS must be capable of monitoring all the subsystems at the hub as well as the remote VSATs.	It is understood that NMS shall be capable of monitoring Hub baseband system along with Remote Baseband System (Satellite Modem). It shall not monitor the UPS & other system. Please confirm and clarify.	Yes. All IP enabled devices are to be monitored.

38	2.2.6	Ability to enable and disable multicast addresses in both forward and return links.	Since multicast is only used in case of outbound direction, as destination for Inbound channel is only Hub, So we request to change this clause to modify to **"Ability to enable and disable multicast addresses in forward links."**	Return link may be treated as deleted.
39	2.4.1	The messaging server should be scalable and should be able to support to at least 3000 users with a space of 1 GB to each user.	It is understood that Messaging server hardware to be provisioned for 3000 users with 1 GB space for each user. Is it required to provision all 3000 software licenses initially? Please confirm & clarify.	GTE Condition prevails
40	2.5.2	Output of logs generated by call manager should be exported /imported in excel, word, text format.	Please change it to "Output of logs generated by call manager should be exported /imported in excel/ word/text format/PDF/CSV" Remarks : -We request you to add this clause so as to provide the flexibility of providing reporting in all possible formats.	GTE Condition prevails
40	2.5.4	The call manager should support SIP based protocols and should conform the standards of TEC-IR in this regard.	Request you to remove TEC-IR since this is not required for software based Call Controls Remarks: - TEC clause is only applicable for ISDN based interfaces which is not applicable as a SIP based exchange has been asked for.	TEC IR are applicable in those conditions only in which TEC IR prevails as on date.
40	2.5.7	The Call manager should be in 1:1 redundancy and must be hot swappable i.e. in case of failure of master server redundant server must take over with a minimal down time without any limitation for the users or end points.	Request you to change this "The Call manager should be in 1:1 redundancy and should provide Active/Active configuration so that Redundancy is provided using zero downtime and alternatively Load Balancing can also be achieved"	GTE Condition prevails
40	2.5.9	Recording to be access through double secure logins and can be replayed on any open standard player	Pls. confirm if you are looking for recording of voice calls or Call detailed records	Please refer 2.5.8.
40	2.5.13	Capable of limiting total bandwidth usage and set maximum per call bandwidth usage with automatic down-speeding if call exceeds per-call maximum.	Request you change this to"Capable of limiting total bandwidth usage and set maximum per call bandwidth"	HUB should have facility to configure dianamically the Video/Voice/data link in PAMA or DAMA as per the requirement from point to pont or point to multi-point
40	2.5.14	Secure management with HTTPS, SSH, and SCP (secure file transfer).	Request you to change this to " Secure management with HTTPS/SSH/and SCP (secure file transfer)	May be read as HTTPS/SSH. Rest remains the same.

40	2.5.12	2.5.12 Registration of SIP aliases and services. Support at least 10000 registered devices.	It is understood that Call Manager hardware should be able to support 10000 registered devices. Please confirm the nos. of software licenses to be provisioned initially to support registered devices.	GTE Condition prevails
41	2.6.3	2.6.1 The Video Server should be compatible with SIP protocol and conform to TEC-IR in this regard.	As Video Server has been asked for communication over IP Network only, and there is no requirement for connectivity on PSTN, hence TEC-IR is not required. Remarks: - TEC-IR is required for Telephony/PSTN network.	TEC IR are applicable in those conditions only in which TEC IR prevails as on date.
42	4.1	SOLID STATE POWER AMPLIFIER (SSPA) (1+1) Hot standby Configuration to cater to the Technical requirements mentioned above with a scope for augmenting the Network to Multi Transponder environment, Preferably to the extent of twice of the requirements being offerd. The offerd HPA with the auto change over switch is to be operated in Normal C Band .	In the power level asked the TWTA is the standard. TWTA gives much better performance in the regoin. Please specify TWTA	May offer SSPA/TWTA. Rest remains the same.
42	4.1.1	Frequency - Normal C band	Please specify the frequency.	5.925 to 6.425 GHz. Rest GTE conditions remain same.
42	4.2.2	Operating Frequency Range - Normal C Band	Please specify the frequency. 2. provide Gain Flatness and Gain Slope	3.7 to 4.2 GHz rest GTE conditions remain same.
42	4	Equipments to be Supplied/offerd for Central Hub Site	It is understood the SSPA, Up converter & Down converter are required for indoor application.	Ref. Page 33, clause no. 1.3.2
42	4.2	Low Noise Amplifier	It is understood that frequency range of Normal C Band for Receive chain is 3.625 GHz to 4.2 GHz. Please confirm and clarify. 2. Gain Flatness	3.7 GHz to 4.2 GHz. Rest GTE conditions remain same.
43	4.4	Up Converter (1:1) Hot Standby Configuration with auto changeover	Up convertors will not be required if L Band TWTA are asked for.	GTE Condition prevails
43	4.6.3	NMS (Hardware & Software) along with Heavy Duty printer In 1:1 Redundancy	The specifications of Heavy Duty Printer may please be provided.	Bidder may offer latest best suited industry standard printer to endure for 24x7 operation.

43	4.6.2	In routes demodulators in 5:1 Redundancy or better	The single demodulator in Hub is capable of handling multiple Inroute carriers (upto 40), So the capability of Single Demodulator is increased and the quantity of demodulator is reduced to save on the Rack Space and Power consumption. So we request to change this clause to specify the redundancy configuration as " In routes demodulators in N:1 Redundancy or better" The capability of all the demodulators can be specified as to handle upto 30 Msps aggregate Carriers which is sufficient to cater to a full 36 MHz satellite Transponder.	GTE Condition prevails
43	4.3	Refurbishment of 11 meter antenna	Please mention the Make/Model of Existing 11M Antenna.	Make: BEL further refer page 6 clause E
43	4.5	Down converter (1:1) Hot standby configuration with auto changeover	Please provide the TEC IR document number	TEC IR are applicable in those conditions only in which TEC IR prevails as on date.
43	4.6.4.1	Band of operation - Normal C Band	Kindly clarify, beacuse baseband noramlly operates at IF of L-Band frequency range	Band of operation may be read as IF band.
43	4.6.4.6	Multiple Access: DVB-S2, MF-TDMA based with ACM/ Dynamic modulation and CnC feature on STAR-MESH topology	It is not possible to have DVB-S2 in Return Channel Access and hence it is suggested that Return Channel Multiple Access scheme shall be MF-TDMA only with Dynamic Modulation on Star Mesh topology. Please confirm.	DVB-S2 may not be treated as mandatory (for return channel)
43	4.6.4.9	FEC: 1/2, 2/3, 3/4, 4/5 or any other efficient code	FEC rate of 3/4 is proprietary and hence needs to be removed .	FEC 3/4 may not be treated as mandatory
43	4.6	4.6-Baseband Equipment: Environmental Specs. S/No 14.	Indoor Unit Operating Temperature: -10deg.Cto 50deg.C Humidity : 90% Hub Baseband (Indoor Units) are usually kept in thermally controlled environments hence the spec should be +10 to 35deg C. Please confirm.	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.

44	4.6.4.12	Data rate in return link & No. of carriers to be demodulated simultaneously :- Bidder to offer as per network requirementand the system access scheme.As per the system requirement, bidder to specify, also in conformity with sl. no. 3 & 8above.	Kindly provide required bandwidth in terms of simultaneous bandwidth required by different applications per site and concurrency of active sites in network. or Minium/Maximum bandwidth per site and cocurrency. This will requited to calculate no. of carriers required and make sure that each vendor provides sufficient number of Demodulators at Hub.	1. Refer page no 33, Scope of work. Clause 1.3.8 2. The outroute should be configurable from 2 Mbps to 45 Mbps. 3. The inroute should be configurable upto 2 Mbps. 4. Hybrid Site should be configurable up to 4 Mbps. 5. Rest GTE conditions remain same.
44	4.6.4.6	In -route Capability: - The offerd system must support in-route 5:1 redundancy or better from minimum traffic of 16 kbps to a maximum data rate available in system to carry the traffic of all the services mentioned above.	1. Majority of MFTDMA based satcom baseband OEMs does not support inbound starting from 16 kbps. Please relook the specification. 2. The single demodulator in Hub is capable of handling multiple Inroute carriers (upto 40), So the capability of Single Demodulator is increased and the quantity of demodulator is reduced to save on the Rack Space and Power consumption. So we request to change this clause to specify the redundancy configuration as " In routes demodulators in N:1 Redundancy or better" The capability of all the demodulators can be specified as to handle upto 30 Msps aggregate Carriers in hub which is sufficient to cater to a full 36 MHz satellite Transponder.	GTE Condition prevails
44	4.6.4.13	IFL Interface : - IFL cable of 150 feet or more.	It is recommended that IFL cable should be of length upto 30 Mtr to minimize the losses. Please confirm & clarify.	Should meet the Network requirement to interconnect the Hardwares with minimal losses. Rest GTE conditions remain same.

44	4.6.4.3	Services : - Voice, Data , Video conferencing in Unicast, Multicast, Broadcast, File transfer, Intranet, etc.	1. IP Multicast is better and more elegant way to transmit data to a group and selected sites (all the sites) as it is "managed & controlled" and more secure, only the allowed VSATs are able to receive the multicast. •Broadcast is achieved by multicast traffic to all remote stations. •We request to remove Broadcast from the requirements. 2. The Outbound Channel Capacity required has been specified in terms of "Mbps". The Outbound and Inbound Mbps would vary depending upon no. of factors, such as the Satellite, MODCOD used, coding used etc., So to keep everybody at the same level we suggest to specify the inroute and outroute capacity in terms of Msps. We suggest to specify "Forward channel capability from 1.5 Msps upto 30 Msps or better". 30 Msps is sufficient enough to cover full 36 MHz transponder.	GTE Condition prevails
44	4.6.4.7	Terminal to Terminal Mesh Connectivity: - Ability to configure any two remote terminals Mesh connectivity with due authorization from HUB. The inter action between the remote terminals should take place with supervision of the HUB. The Voice call should be in single satellite hop from remote to remote and even from remote to Hub or vice-versa. .Ability to exchange other services in two hops from remote terminals configured as star.	• We would like to suggest that Mesh operations for most of the VSAT network is not a preferred option now a days as the same functionality can be achieved in the STAR operations(through hub) as well even for the Latency Sensitive applications such as Voice & Video without any issues and without any degradation in user experience. • Also to support Mesh for the same data rate as compared to STAR, we need to put higher antenna size & BUC at VSAT. The large antenna will not only increase the Capex but also increase cost of the terminal tremendously including the high installation and maintenance cost for these terminals. • So we strongly recommend changing the requirements to STAR only Hub and VSAT system.	GTE Condition prevails

44	4.6.4.8	Return Link Data Rate: - Bidder to suggest suitable data rate to match Forward Link Data rate.	We request POLNET to clearly specify the Capacity of the Inbound channels required(No. of Inbound channels required, Size of each Inbound channel in terms of Msps) in order to avoid any mis-interpretation and to keep everybody on the same page.	1. Refer page no 33, Scope of work. Clause 1.3.8 2. The outroute should be configurable from 2 Mbps to 45 Mbps. 3. The inroute should be configurable upto 2 Mbps. 4. Hybrid Site should be configurable upt to 4 Mbps. 5. Rest GTE conditions remain same.
44	4.6.4.9	Return Link FEC: - 1/2, 2/3,3/4, 4/5 or any other efficient code.	FEC rate of 3/4 is proprietary and hence needs to be removed offerd spec shall be FEC: 1/2, 2/3,4/5 or any other efficient code.	FEC 3/4 may not be treated as mandatory
44	4.6.4	S.No.12 Data rate in return link & No. of carriers to be demodulated simultaneously:- Bidder to offer as per network requirementand the system access scheme.As per the system requirement, bidder to specify, also in conformity with sl. no. 3 & 8above.	Kindly provide required bandwidth in terms of simultaneous bandwidth required by different applications per site and concurrency of active sites in network. or Minium/Maximum bandwidth per site and cocurrency. This will requited to calculate no. of carriers required and make sure that each vendor provides sufficient number of Demodulators at Hub.	1. Refer page no 33, Scope of work. Clause 1.3.8 2. The outroute should be configurable from 2 Mbps to 45 Mbps. 3. The inroute should be configurable upto 2 Mbps. 4. Hybrid Site should be configurable upt to 4 Mbps. 5. Rest GTE conditions remain same.
44	4.6.4.4	**Return link Data Rate:** Bidder to suggest suitable data rate to match Forward Link Data rate.	We request POLNET to clearly specify the Capacity of the Inbound channels required(No. of Inbound channels required, Size of each Inbound channel in terms of Msps) in order to avoid any mis- interpretation and to keep everybody on the same page.	1. Refer page no 33, Scope of work. Clause 1.3.8 2. The outroute should be configurable from 2 Mbps to 45 Mbps. 3. The inroute should be configurable upto 2 Mbps. 4. Hybrid Site should be configurable upt to 4 Mbps. 5. Rest GTE conditions remain same.

45	4.10.1.B	Standards and Protocol G.711,G.722,G.722.1 or better	We request the authority to consider H.264 high Profile and H.265 as mandatory protocols Remarks: - H.264 High Profile and H.265 are the latest Video Compression Protocols, which reduce the requirement of Bandwidth by upto 50%.	GTE Condition prevails
45	4.10.1.F	The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI (Digital Video Interface)	We request to include HDMI and VGA as an option for PC Input. Updated Clause will be as under: "The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI (Digital Video Interface)/HDMI/VGA" Remarks: - All PC's have either HDMI or VGA as Video Output and is recommended to connect to the Video Conferencing Endpoint Directly without any convertor. Hence we request to consider HDMI and VGA Video Inputs for PC Connectivity.	May be read as.....1 for PC DVI (Digital Video Interface) or any other standard interface such as HDMI/VGA etc.
45	4.6.4.14	Return Link. Environmental Specifications Indoor Unit Operating Temperature: -10deg.C to 50deg.C	Standard Operation Temperature of Indoor Units is from "0 deg C to 50 deg C". Please clarify the operating Temperature requirements.	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.
46	4.10.4.G	Zoom Ratio: - 10x Zoom optical or better.	We request to change it to 12x Zoom optical or better Remarks: - With higher optical zoom, farthest participant can be captured with better quality.	GTE Condition prevails

46	5.A	The MCU must be provided with all the necessary accessories to integrate system in19" Industrial Rack.	1. In our case Multiparty upto 6 Sites (1+5) is supported by Video Conferencing Endpoint itself and there is no need for a separate rack mountable MCU. Hence The Rack Mounted MCU should be supplied only by OEMs who do not support 5 Party MCU on their endpoints Remarks: - The Rack Mountable MCU should be made optional and Endpoint based MCU should be considered. 2. Request to modify the clause such that the Rack Mountable MCU be made optional and Endpoint based MCU shall be considered.	1. At Hub bidder has to offer equipment for video conferencing HD quality with 40 concurrent Sites. 2. At Mesh Sites Bidder has to offer equipment for video conferencing HD quality with concurrent 05 Sites. 3. Industry standard rack mountable options may be offered, if required. 4. All sites should be able to participate in Video conferencing. Necessary license, hardware, software should be provided accordingly and should be expandable to 3000 users. 5. Rest GTE Conditions remains same.
46	4.10.4.I	Microphone: - 2 x 360° voice pickup microphone.	We request to consider support of atleast 4 mics, however 2 can be supplied day one Remarks: - More microphones may be required in a conference room for better coverage of the participants. Hence support for the same should be considered.	GTE Condition prevails
46	4.11.1	Technical Requirements of IP Phone: - 1. Display 3.5" Color LCD 2. Interface Ethernet Port (RJ-45) , Video port 3. Codecs MPEG4/SP ,MP3, G.711 (A-Law and μ-law) ,G.711 ,G.726 (16/24/32/40 kbps) ,G.729, G.729A, G.726-32 etc. 4. Voice Gateway SIP 5. Power 230V AC ± 10%	1. What is the usage of "Video Ports" in IP Phone? Either it should be a Video IP phone with inbuilt camera or non-video normal IP Phone. Kindly clarify. Remarks : - As per our understanding, the requirement is for IP Phone for voice calling. Hence, request you to delete the video ports. 2. Pls. confirm if the IP Phone and the Call manager are required to be from the same OEM for better interoperability and compatibility. 3. Request you to change this to" Codecs:G.711 (A-Law and μ-law) ,G.711 ,G.729, G.729A, etc." 4. Dual 10/100 Ethernet ports. 5. to add " The IP Phone should support minimum 2 or more programmable line keys"	1. Video ports may not be treated as mandatory. 2. Total Network is to be implemented on turnkey basis to a single Vendor with end to end solutions. 3. Rest GTE Conditions remains same.

46	4.10.1.4.E	(4.10.1 5.9.1, 6.9.1) Total Feild of View : 250 degree	We request you to kindly modify the clause to " Total field of view 180 degrees or better Remarks : - The PTZ camera capability is usually 90 deg (left to right). Hence, total field of view is 180 deg.	GTE Condition prevails
46	4.10.1 - 4.10.5.B	Video Conferencing Equipments	At Clause 4.10.1-5B / Page 46, It is mentioned that MCU shall support 5 Party video conference call. However at clause 1.3(v) / Page No. 33, 40 Nos. of simultaneous video conference call are mentioned. It is mentioned at Clause 2.6.5/ Page 41 that all the multi party video conferences are to be initiated from hub only. As MCU is required for Multi Party video conference calls, Therefore it is understood that the MCU hardware & software at hub should be provisioned to support 40 nos. of simultaneous video conferences. Please confirm and clarify.	1. At Hub bidder has to offer equipment for video conferencing HD quality with 40 concurrent Sites. 2. At Mesh Sites Bidder has to offer equipment for video conferencing HD quality with concurrent 05 Sites. 3. Industry standard rack mountable options may be offered, if required. 4. All sites should be able to participate in Video conferencing. Necessary license, hardware, software should be provided accordingly and should be expandable to 3000 users.
46	4.12.1	Modular UPS in fail safe mode with a common output bus, each module of 5KVA with independent battery bank with total no. of 4 modules. UPS should share the load in parallel and Hot swappable configuration. UPS is meant for supporting all the power requirements of the Hub and its peripheral equipments. Bidder may offer a better option if any in case of power requirement and redundancy.	required and no. additional module to be provisioned for redundancy. Please confirm and clarify.	1.Minimum 4 module of 5 KVA are required. Bidder should offer for best solution considering total power requirement of supplied equipments with zero downtime redundency. 2. Rest GTE conditions remains same.
47	4.12.2	Should meet the Broad specifications not limited to - Backup Time - 30 Min at full rated load	It is requested to kindly Specify VAH for the required backup i.e. 30 minutes as this will help in bringing all vendors to uniform level. Remarks: - We suggest to kindly specify the Battery brands so that sub-standard batteries are not supplied. We suggest Exide/Amararaj/ Base/ Southern/ Relicell/ NED batteries makes to be specified.	No clarification required

47	4.13.1.1.12	Opearting Temperature: 5 to 40 deg C	As per our understanding the lower range of temperature is +5°C . Please clarify the temperature.	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.
48	4.14.1	Measuring and Monitoring Instrument and Tool Kit for HUB: - 1. Bidder shall offer appropriate Real Time Video, voice, and data call Monitoring devices with detail specification and feature.	1. Details of tool for monitoring of real time video, voice & data may please be provided 2. The detail eleboration is desired for required item under this.	GTE Condition prevails
48	4.15	4.15 Data Terminal Equipment Specifications not limited to 1. Processor Intel i5 or latest 2. RAM 2 GB DDR-3 or better 3. Hard Disk Drive 500 GB HDD or better 4. Monitor 17" LCD/LED with resolution 1280X1024 or better 5. Key Board Bilingual keyboard (English & Hindi) 6. OS Software Windows 8 or latest.	1. Specification of Data Terminals for Hub site is mentioned at Clause 4.15 / Page No. 48, however the Data Terminals is not included in BOM at Section II-A / Page No. 59. Please confirm the qty. of Data Terminals required at Hub site. 2. Whether it is meant for Desktop or Laptop or Rack Mountable	1. 05 DTE are required to be supplied at Hub. The same may be added at sl No. 1.19 of Price bid format , Appendix 10 2. The data terminal equipemnt should be Desktop Version

49	4.17.2	05 Fly Away VSATs in normal C band operation within 110 VSATs along with HUB equipment	Kindly specify details of the requirement of 5 FlyAway Terminals as they are not mentioned in deliverables and Price bid formats. Antenna, RF sizes required, will they be part of the 1700 Star Terminals.	Bidder has to provide 5 Fly away terminals. The system should be highly portable, compact, light-weight, and easily assemblable in short time with minimum manpower . The antenna reflector should be foldable/segmented in 2 or 4 piece in light weight material like glass fiber reinforced with compact pedestal.The system should have seamless connectivity of all services of the network with other terminals and system should operate on mains/battery. The bidder should quote for complete system with necessary Hardware anfd software to meet the requirements of all the servicesof the network., in the Appendix 10 in the price bid format as a seperate item .
49	5.1.1	Should conform to the specifications TEC-IR number GR/SAN-15/02Feb2006 or latest. Antenna Dia - 3.8 m Frequency-Tx - Normal C Band Frequency- Rx - Normal C Band Polarisation- linear	It is understood that 3.8 M Antenna shall not have controller & motor drive mechanism. It will be aligned manually. It is understood that Tx frequency range of Normal C Band is 5.850 GHz to 6.425 GHz and Rx frequency range of Normal C Band is 3.625 GHz to 4.2 GHz. Please confirm & clarify.	Tracking mechanism Manual & Network shall operate in C Band Up link 5.925 to 6.425 GHz Dn Link 3.7 to 4.2 GHz

50	5.4.1.4	Multiple access scheme:- DVB-S2 (or its latest version) and MFTDMAbased with ACM/Dynamic modulation and CnC feature on STAR and MESH Topology	1. CnC feature can not be deployed for MF-TDMA Mesh links and is normally deployed for Star topology with DVB-S2 (Outbound) and MF-TDMA (Inbound). CnC will be not available for Remote to Remote MF-TDMA Mesh traffic. Kindly clarify CnC feature requirement. 2. • We would like to suggest that Mesh operations for most of the VSAT network is not a preferred option now a days as the same functionality can be achieved in the STAR operations(through hub) as well even for the Latency Sensitive applications such as Voice & Video without any issues and without any degradation in user experience. • Also to support Mesh for the same data rate as compared to STAR, we need to put higher antenna size & BUC at VSAT. The large antenna will not only increase the Capex but also increase cost of the terminal tremendously including the high installation and maintenance cost for these terminals. • So we strongly recommend changing the requirements to STAR only Hub and VSAT system.	1. DVB-S2 may not be treated as mandatory (for return channel) 2 . CnC feature may not be treated mandatory for the Mesh Links 3. Rest GTE Conditions remains the the same

50	5.2	Radio Frequency Transceiver(RFT	1. BUC is more current nomeclature 2. As per latest technology, small ratings of RFT with booster come in single box i.e BUC (Block Up Converter). Please confirm that 20W BUC can also be offerd for 20W RFT with booster. It is understood that RF Power of 20W is at P1 dB. Please confirm & clarify. 3. Please specify the P1. Remarks: - To remove any ambiguity in GaAs Type BUC 4. Please specify Gain Stability over time period of 24 hours . There is also an spec of stability over temp range of 50 C Suggested: Over any 50°C range, freq. set: ±1.5 dB max. Over temp, frequency set: ±2.0 dB max. Over 24 hours: ±0.25 dB (fixed temperature and constant drive) Remarks :- Gain stability is the appropriate specs and there are three type of stability	May offer either. Rest GTE conditions remais the same.
50	5.2.2	Should meet the Broad specifications not limited to RFT Input Frequency - Normal C Band RF output Power - 20 Watt Power Output Stability - 0.5 dB or betterGain- 40 dB VSWR - 1.25:1 Spurious Emissions - As per ITU-R S.726 or Latest recommendations	1. The input should be specified as L band to have clarity. 2. Please specify the frequency	1. Ref clarifiction for clause No. 5.2 at page 50. 2. Network shall operate in C Band Up link 5.925 to 6.425 GHz Dn Link 3.7 to 4.2 GHz 3. Rest GTE conditions remain same.
50	5.2.1	RFT with appropriate booster to cater to the Technicalrequirements mentioned above with a scope for augmenting to the extent of twice of the requirements being offerd. The offerd RFT along with the appropriate booster is to be operated in NormalC Band and should conform to the statutory guidelines of Government of India.	It is understood that RFT should cater for 4 Mbps (Twice of Requirement) link in mesh mode. Please confirm & clarify.	No clarification required.

50	5.3.2	Should meet the Broad specifications not limited to Low Noise Block(LNB) Input Frequency - Standard C Band Power Output Stability- 0.5 dB or better Gain - 40 dB VSWR - 1.25:1 Spurious Emissions- As per ITU-R S.726 or Latest recommendations	1. It is understood that Input frequency for LNB in Standard C Band is 3.625 GHz to 4.2 GHz. Please confirm & clarify. 2. We request to change the VSWR requirements for LNB to "2.5:1"	1. Network shall operate in C Band Up link 5.925 to 6.425 GHz Dn Link 3.7 to 4.2 GHz 2. Rest GTE Conditions remains
50	5.4.1.2	Modulation - QPSK/8PSK/any other bandwidth efficient modulation	Please clarify the meaning of "/" in QPSK / 8PSK. "/" stands for QPSK or 8 PSK OR QPSK and 8 PSK? Please confirm & clarify.	System should support these modulation schemes
50	5.4.1	VSAT Modem Sno.10 (5.4.1)	Indoor Unit: Operating Temperature: -10deg C to 50deg C, Humidity 90% Specification should be, for VSAT Modem: Operating Temperature: 0deg C to 50deg C, Humidity 90%, to allow more OEM participation	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.
51	5.4.1.10	Environmental specifications:- Indoor Unit : Operating Temperature : -10deg.C to50 deg.C Humidity: 90% Outdoor Unit :Operating Temperature 0deg.C to60 deg.C Humidity0 to 100 % with condensation	Standard Operation Temperature of Indoor Units is from "0 deg C to 50 deg C". Please clarify the operating Temperature requirements.	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.
51	5.4.1.8.a	No. of Ports - 1) Minimum two Ethernet port - LAN RJ45 2) Standard Configuration port	Since there are multiple devices needs to be connected at the VSAT (like PC, IP phone, Video Conferencing equipment, Printer etc.), So we suggest to change the No. of LAN Ports requirement at the VSAT modem to "**four**".	GTE Conditions Prevails
51	5.4.1.8.b	Port Speeds -- 10/100 Mbps	We suggest to change the Port Speed at the VSAT Modem to : "10/100/1000 Mbps".	GTE Condition Prevails

51	5.7.1	Specifications not limited to: UPS - 5 KVA Battery Backup - 30 Minutes on full rated load	It is requested to kindly Specify VAH for the required backup i.e. 30 minutes as this will help in bringing all vendors to uniform level. Also, it is requested to kindly specify detailed technical specification for 5 KVA UPS. Remarks: - We suggest to kindly specify the Battery brands so that sub-standard batteries are not supplied. We suggest Exide/Amararaj/ Base/ Southern/ Relicell/ NED batteries makes to be specified.	No Clarification required
52	5.9.1 1 B	Standards And Protocol : H.263, H.264 etc. or better	We request the authority to consider H.264 high Profile and H.265 as mandatory protocols	GTE Condition Prevails
52	5.9.1.1.F	Video Inputs : The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI	We request to include HDMI and VGA as an option for PC Input.	GTE Condition Prevails
52	5.8.1	IP Phone Specifications not limited to 1. Display 3.5" Color LCD 2. Interface Ethernet Port (RJ-45) , Video ports 3. Codecs MPEG4/SP ,MP3, G.711 (A-Law and μ-law) ,G.711 ,G.726 (16/24/32/40 kbps) ,G.729, G.729A, G.726-32 etc. 4. Voice Gateway SIP. 5. Power 230V AC ± 10%	1. What is the usage of "Video Ports" in IP Phone? Either it should be a Video IP phone with inbuilt camera or non-video normal IP Phone. Kindly clarify. Remarks : - As per our understanding, the requirement is for IP Phone for voice calling. Hence, request you to delete the video ports. 2. Pls. confirm if the IP Phone and the Call manager are required to be from the same OEM for better interoperability and compatibility 3. Request you to change this to" Codecs:G.711 (A-Law and μ-law) ,G.711 ,G.729, G.729A, etc." 4. We request you to add dual 10/100 Ethernet ports. 5. We request you to add " The IP Phone should support minimum 2 or more programmable line keys"	1. Video ports may not be treated as mandatory. 2. Total Network is to be implemented on turnkey basis to a single Vendor with end to end solutions. 3. Rest GTE Conditions remains same.

52	5.8.1.5	IP Phone Specifications not limited to 1. Display 3.5" Color LCD 2. Interface Ethernet Port (RJ-45) , Video ports 3. Codecs MPEG4/SP ,MP3, G.711 (A-Law and μ-law) ,G.711 ,G.726 (16/24/32/40 kbps) ,G.729, G.729A, G.726-32 etc. 4. Voice Gateway SIP. 5. Power 230V AC ± 10%	Pls. confirm if the phones are required to be PoE or to be supplied with a power adaptor.	Bidder may offer either of these two.
52	5.9.1.1.F	Video Inputs : The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI (DigitalVideo Interface)	We request to include HDMI and VGA as an option for PC Input. Updated Clause will be as under: "The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI (Digital Video Interface)/HDMI/VGA" Remarks : - All PC's have either HDMI or VGA as Video Output and is recommended to connect to the Video Conferencing Endpoint Directly without any convertor. Hence we request to consider HDMI and VGA Video Inputs for PC Connectivity.	May be read as.....1 for PC DVI (Digital Video Interface) or any other standard interface such as HDMI/VGA etc.
53	5.9.1.4.G	Zoom Ratio : 10x Zoom optical or better.	We request to change it to 12x Zoom optical or better Remarks: - With higher optical zoom, farthest participant can be captured with better quality.	GTE Conditions Prevails
53	5.9.1.4.I	Microphone: 2 x 360° voice pickup microphone.	We request to consider support of atleast 4 mics, however 2 can be supplied day one Remarks: - More microphones may be required in a conference room for better coverage of the participants. Hence support for the same should be considered.	GTE Conditions Prevail

53	5.9.1.5.a	The MCU must be provided with all the necessary accessories to integrate system in19" Industrial Rack.	In our case Multiparty upto 6 Sites (1+5) is supported by Video Conferencing Endpoint itself and there is no need for a separate rack mountable MCU. Hence The Rack Mounted MCU should be supplied only by OEMs who do not support 5 Party MCU on their endpoints Remarks:- The Rack Mountable MCU should be made optional and Endpoint based MCU should be considered.	1. At hub Bidder has to offer equipment for inititating 40 Party video conferencing HD quality. 2. At Mesh sites Bidder has to offer equipment for inititating 05 Party video conferencing HD quality. 3.All the Billed sites should be able to participate in Video conferencing. Necessary license, Hardware, software should be provided accordingly and should have provision for 2000 users in future. 4. Industry standard rack mountable options may be offered, if required.
53	5.9.5.b	The MCU should be capable of handling minimum 5 party video conference asper open standards. Should have provision for recording the conference and archiving with date and Time Stamping for finite period.	1. Please confirm if the MCU should be a separate appliance and should be rack mounted unit. 2. Please confirm if the resolution required to be supported on the MCU should be upto 720p or better.	1. At hub Bidder has to offer equipment for inititating 40 Party video conferencing HD quality. 2. At Mesh sites Bidder has to offer equipment for inititating 05 Party video conferencing HD quality. 3.All the Billed sites should be able to participate in Video conferencing. Necessary license, Hardware, software should be provided accordingly and should have provision for 2000 users in future. 4. Industry standard rack mountable options may be offered, if required.

53	5.9.1.5	MULTI CONTROL UNIT (MCU) a. The MCU must be provided with all the necessary accessories to integrate system in 19" Industrial Rack. b. The MCU should be capable of handling minimum 5 party video conference asper open standards. Should have provision for recording the conference and archiving with date and Time Stamping for finite period.	It is mentioned at Clause 2.6.5/ Page 41 that all the Multi Party video conferences are to be initiated from Hub only. As MCU is required for Multi Party video conference calls, Therefore it is required at Hub location only. However the requirement of MCU is also mentioned at all Mesh and Star at Clause No. 5.9.1-5/ Page No. 53 and 6.9.1-5/ Page No.58 respectively. Please confirm that MCU is only required at Hub site.	1. At Hub bidder has to offer equipment for video conferencing HD quality with 40 concurrent Sites. 2. At Mesh Sites Bidder has to offer equipment for video conferencing HD quality with concurrent 05 Sites. 3. Industry standard rack mountable options may be offered, if required. 4. All sites should be able to participate in Video conferencing. Necessary license, hardware, software should be provided accordingly and should be expandable to 3000 users. 5. Rest GTE Conditions remains same
54	6.2	RFT to cater to the Technical requirements mentioned above with a scope for augmenting to the extent of twice of the requirements being offerd	1.BUC is more current nomeclature. 2. Please specify the specific Power instead of two power or provide the breakup of number of sites with different power level . Please specify at P1 Remarks: - To remove any ambiguity in GaAs Type BUC. 3. Hardware specification should be defined by the POLNET to avoid any ambiguity.	1. May offer either RFT or BUC. 2. Rest GTE conditions remains same.
54	6.2.2	Should meet the Broad specifications not limited to 1. Input Frequency- Standard C Band 2. R F Output Power-- 5/10 Watt 3. Power Output Stability - 0.5 dB or better 4. Gain --40 dB 5. VSWR- 1.25:1 6. Spurious Emissions - As per ITU-R S.726/ ITU-R recommendations	1. Please specify the frequency. 2. Please specify the specific power instead of two powers to provide the breakup of number of sites with different power level. 3. We request to change the VSWR requirements for 5/10W BUC to "2.5:1"	1. Network shall operate in C Band Up link 5.925 to 6.425 GHz Dn Link 3.7 to 4.2 GHz 2. Rest GTE conditions remains same.

54	6.1	6.1 1.8/2.4 Meter Antenna	You are requested to confirm the Ante....a size (1.8M or 2.4 M). It is understood that 1.8M / 2.4M Antenna shall not have controller & motor drive mechanism. It will be aligned manually. Please confirm & clarify.	GTE conditions prevails.
55	6.4.2.8	Performance Enhancement Proxy:- To be specify by the bidder	1. If customer intended to use external IP encryptors, inbuilt TCP acceleration available in Modems will not work as traffic is encrypted before reaching to Modem. Please confirm if External Hardware based TCP Accelarator needs to be supplied with Remotes.	1. Any Additional equipment including CnC, TCP Accelerator Etc to meet the network requirements may be offered and same may be included in Price Bid Format 2. Rest GTE conditions remains same.
55	6.4.2.2	Modulation QPSK/8PSK/ any other bandwidth efficient modulation	Please clarify the meaning of "/" in QPSK / 8PSK. "/" stands for QPSK or 8 PSK OR QPSK and 8 PSK? Please confirm & clarify.	System should support these modulation schemes.
55	6.3.2	Input Frequency - Satndard C Band	1. It is understood that Input frequency for LNB in Standard C Band is 3.625 GHz to 4.2 GHz. Please confirm & clarify. 2. We request to change the VSWR requirements for LNB to "2.5:1"	1. Network shall operate in C Band Up link 5.925 to 6.425 GHz Dn Link 3.7 to 4.2 GHz 2.Rest GTE Conditions remains same.
55	6.4.2.11	Environmental specifications Indoor Unit: Operating Temperature : 0 deg.C to 50 deg.C Humidity : 90% Outdoor Unit: Operating Temperature : 0 deg.C to60 deg.C Humidity : 0 to 100% withCondensation	It is understood that COTS equipments are to be supplied for VSAT indoor system. Please confirm that all indoor system at remote site shall operate from 5 to 35 Deg C.	1. The operating temp. May be read as for Indoor equipments 0 to +45 deg. And for Outdoor equipments: -10deg.C to 50deg.C 2. Hub Indoor Baseband equipments should operate on 10 deg C to 30 deg C.

55	6.4.2.9.a	Physical Interface Port Speeds : 10/100 Mbps, 9.6 Kbps for Serial	1. We suggest to change the Port Speed at the VSAT Modem to : "10/100/1000 Mbps". Also since all the applications are IP based and there is no requirement of serial Port at the VSAT Modem, so we request to remove the 9.6Kbps Serial requirements from the specifications. 2. If customer intended to use external IP encryptors, inbuilt TCP acceleration available in Modems will not work as traffic is encrypted before reaching to Modem. Please confirm if External Hardware based TCP Accelarator needs to be supplied with Remotes. 3. Kindly clarify use of 9.6 Kbps Serial Interface. MF-TDMA based IP modems uses only IP interface for traffic and Serial or USB interface is used for Console, to configure and locally connect to Modems.	1. Serial Port may please be treated as standard USB Port. 2.Any Additional equipment including CnC, TCP Accelerator Etc to meet the network requirements may be offered and same may be included in Price Bid Format 2. Rest GTE conditions remains same.
56	6.8.1	Should meet the Broad specifications not limited to 1 Display 3.5" Color LCD 2 Interface Two Ethernet Port (RJ 45) Two Video ports 3 Codecs MPEG4/SP, MP3 G.711(A-Law and μ-law),G.711,G.726 (16/24/32/40 kbps) G.729, G.729A G.726-32 etc. 4 Voice Gateway SIP 5 Power 230VAC ± 10%	1. What is the usage of "Video Ports" in IP Phone? Either it should be a Video IP phone with inbuilt camera or non-video normal IP Phone. Kindly clarify. Remarks : - As per our understanding, the requirement is for IP Phone for voice calling. Hence, request you to delete the video ports. 2. Pls. confirm if the IP Phone and the Call manager are required to be from the same OEM for better interoperability and compatibility 3. Request you to change this to" Codecs:G.711 (A-Law and μ-law) ,G.711 ,G.729, G.729A, etc." 4. We request you to add " The IP Phone should support minimum 2 or more programmable line keys"	1. Video ports may not be treated as mandatory. 2. Total Network is to be implemented on turnkey basis to a single Vendor with end to end solutions. 3. Rest GTE Conditions remains same.
56	6.8.1.5	Power 230VAC ± 10%	Pls. confirm if the phones are required to be PoE or to be supplied with a power adaptor.	Bidder may propose IP Phones operable either on PoE (Power over Ethernet) or 220V AC Mains to meet the network requirement in totality.
58	6.9.1.4.E	Total Field of view 250deg or better.	We request you to kindly modify the clause to " Total field of view 180 degrees or better Remarks : - The PTZ camera capability is usually 90 deg (left to right). Hence, total field of view is 180 deg.	GTE condition prevails

57	6.9.1.1	**B.** Standards And Protocol : H.263, H.264 etc. or better	We request the authority to consider H.264 high Profile and H.265 as mandatory protocols Remarks: - H.264 High Profile and H.265 are the latest Video Compression Protocols, which reduce the requirement of Bandwidth by upto 50%.	GTE condition prevails
57	6.9.1.1	**F.** Video inputs : The system should have 2 Video Inputs to connect 1XHD(High- Definition Multimedia Interface) camera and 1 for PC DVI (Digital Video Interface)	We request to include HDMI and VGA as an option for PC Input. Updated Clause will be as under: "The system should have 2 Video Inputs to connect 1XHD(High-Definition Multimedia Interface) camera and 1 for PC DVI (Digital Video Interface)/HDMI/VGA" Remarks: - All PC's have either HDMI or VGA as Video Output and is recommended to connect to the Video Conferencing Endpoint Directly without any convertor. Hence we request to consider HDMI and VGA Video Inputs for PC Connectivity.	May be read as.....1 for PC DVI (Digital Video Interface) or any other standard interface such as HDMI/VGA etc.
58	6.9.1.4.G	Zoom Ratio: 10x Zoom optical or better.	We request to change it to 12x Zoom optical or better Rearks With higher optical zoom, farthest participant can be captured with better quality.	GTE condition prevails
58	6.9.1.4.I	Microphone : 2 x 360° voice pickup microphone	We request to consider support of atleast 4 mics, however 2 can be supplied day one Remarks: - More microphones may be required in a conference room for better coverage of the participants. Hence support for the same should be considered.	GTE condition prevails

58	6.9.1.5	**a.** MULTI CONTROLUNIT (MCU) The MCU must be provided with all the necessary accessories to integrate system in 19" Industrial Rack.	1. In our case Multiparty upto 6 Sites (1+5) is supported by Video Conferencing Endpoint itself and there is no need for a separate rack mountable MCU. Hence The Rack Mounted MCU should be supplied only by OEMs who do not support 5 Party MCU on their endpoints Remarks: - The Rack Mountable MCU should be made optional and Endpoint based MCU should be considered. 2. It is mentioned at Clause 2.6.5/ Page 41 that all the Multi Party video conferences are to be initiated from Hub only. As MCU is required for Multi Party video conference calls, Therefore it is required at Hub location only. However the requirement of MCU is also mentioned at all Mesh and Star at Clause No. 5.9.1-5/ Page No. 53 and 6.9.1-5/ Page No.58 respectively. Please confirm that MCU is only required at Hub site.	1. At Hub bidder has to offer equipment for video conferencing HD quality with 40 concurrent Sites. 2. At Mesh Sites Bidder has to offer equipment for video conferencing HD quality with concurrent 05 Sites. 3. Industry standard rack mountable options may be offered, if required. 4. All sites should be able to participate in Video conferencing. Necessary license, hardware, software should be provided accordingly and should be expandable to 3000 users. 5. End point equipments are required to be delivered at STAR sites and same may be offerd and include in Appendix 10 (Price Bid Format) under para 3. 6. Rest GTE conditions remians same.
59	Section II.A	Deliverable equipments and services at the HUB site	Specification of Data Terminals for Hub site is mentioned at Clause 4.15 / Page No. 48, however the Data Terminals is not included in BOM at Section II-A / Page No. 59. Please confirm the qty. of Data Terminals required at Hub site.	05 DTE are to be supplied at Hub under "Additional equipement (both hardware & software)" in price bid.
NA	Additional Clarification		We request you to add " Two way voice and video conference should be possible between the IP Phones and video endpoints for better interoperability using a single dial plan"	GTE Conditions Prevails
NA	Additional Clarification		We request you to add " The OEM of video conference and IP Telephony should have atleast one deployment of voice and video conference in MHA/MoD	GTE Conditions Prevails

NA	Additional Clarification		Requirement of PoE switches	Bidder has to offer for semaless connectivity to meet the network requirements
NA	Additional Clarification		Requirement of Interfaces and features of Routers and Switches	Bidder has to offer for semaless connectivity to meet the network requirements
NA			Submitted the suggested technical specifications for 2KVA & 5 KVA	No clarification required
NA	Additional Clarification		As all the indoor systems to be deployed all remote & Hub sites are COTS system, It is understood that environmentally controlled room along with necessary Earthing and Lightning Protection system shall be provided by user. Please confirm & clarify.	Vendor has to offer, ensure and provide proper lightening protection systems and earthing.
NA	Site Not ready clause		In case site is not ready , All due payment should be released with 15 days of delivery intimations considering it as deemed installation	The site may be accepted as per the test procedure finalized with mutual consent of bidder and buyer, the site will be teated accepted when passes all test. Rest GTE condition prevails.
NA	Additional Clarification		In various places across the documents input / output frequency range is mentioned as Normal C Band and at some places it is mentioned as Standard C Band. Required Frequency Band may please be specified.	Network shall operate in C Band Up link 5.925 to 5.425 GHz Dn Link 3.7 to 4.2 GHz
NA	Additional Clarification		The mentioned schedule of 180 days is very stringent and difficult. It is requested that DCPW gives an achievable and relastic delivery period as deliverable goods can be made only after successful JRI and acceptance testing.	GTE Condition prevails
NA	Additional Clarification		Specifications of heavy duty printers are not provided.	Bidder may offer latest best suited industry standard printer to endure for 24x7 operation.

NA	Additional Clarification		The required licenses and clearnces (like SACFA, WPC, NOCC etc)will be issued to end user against their letter and application only by DoT. Hence it is requested that SACFA and WPC , NOCC clearances are to be obtained by DCPW only. However, ECIL shall participtae during NOCC testing.	refer page 34, clause 1.3.14 and Page 6 clause E
NA	Site Not ready clause		SNR claue is required to be added . In case site is not ready , All due payment should be released with 15 days of delivery intimations considering it as deemed installation	The site may be accepted as per the test procedure finalized with mutual consent of bidder and buyer, the site will be teated accepted when passes all test. Rest GTE condition prevails.
NA	General Query		Additional Clause to be included. The Bidder reserves the right to cancel the contract in the following events: • If the Customer is in breach of any obligation under this Agreement. • If the Customer fails to make the payment of invoices within 30 days of receipt of such invoice. Please confirm.	GTE Condition prevails

Annexure "B"

DETAILED MODALITIES FOR APPLYING DCF TECHNIQUE

1. Net Present Value (NPV) is a variant of DCF method which is to be used for evaluation of tenders. The Net Present Value of a contract is equal to the sum of the present values of all the cash flows associated with it. The following formula is to be used for calculating NPV of a tender bid

$$NPV = \frac{\Sigma A_n .}{(1+i)^t}$$

Where,

NPV = Net Present Value
A = Expected cash flow for the period mentioned by the subscript
i = Rate of interest or discounting factor which has been determined to be 9% as per the Min. of Finance, GoI
t = The period after which payment is done
n = Payment schedule as per the payment terms and conditions

When choosing among the various bids for the contract, the bid with the lowest NPV should be selected.

2. The application of the Net Present Value Analysis would involve the following 5- steps:
Step 1. Selection of the discount rate.
Step 2. Identifying the cash outflows to be considered in the analysis.
Step 3. Establishing the timing of the cash outflows.

Step 4. Calculating the net present value of each alternative.

Step 5. Selecting the offer with the least net present value.

3. Prevailing Discounting rate to be used under the method is to be the Government of India's lending rate on loans given to State Governments. These rates are notified by Budget Division of Ministry of Finance annually. Currently 9% is used.

4. Suitable Model for Structuring Cash Flows

(a) Structuring Cash Flows for Tenders/ Bids Received in the Same Currency.

(i) The first step would be to exclude the unknown variables like escalation factors etc while determining the cash flows.

(ii) Thereafter, the cash outflows expected as per the contract schedule from different tenders should be taken into consideration.

(iii) Once the outflows of different tenders become available, NPV of different tenders is to be calculated using the formula given above and select the one having lowest NPV.

(b) Structuring Cash Flows for Tenders/ Bids Received in Different Currency.

(i) Where bids are received in different currencies/combination of currencies, the cash outflow may be brought to a common denomination in rupees by adopting a Base Exchange rate as on the day of opening of price bids. Thereafter, the procedure as described above in the case of tender bids received in the same currency should be applied to arrive at NPV. Conversion of foreign currency bids into rupee is to be done by taking into account the BC selling rate of Parliament Street Branch of State Bank of India, New Delhi on the date of the opening of price bids.

(ii) Any standard software for example 'Excel', or any other spreadsheet, which comes preloaded as part of a personal computer could be used for NPV analysis.

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APPENDIX -10 PRICE BID FORMAT

(Clause - 13 (C) of Annexure-II)

Note: No column of price bid in BOQ format should be quoted as "0", it will be treated as "Free of Cost"

S.No 1 - Sub S. No 1.01 to *1.32* pertains to POLNET HUB location i.e. Samanvay Sadan , Sirifort Marg New Delhi

S.No 2- S S.No 2.01 to *2.21* pertains to Hybrid location at State / UT Capitals & CAPF locations

S.No. 3 - Sub S.No 3.01 to *3.22* pertains to STAR location of State / UT & CAPF locations

S.No 4 - Sub S. No 4.01 to 4.13 pertains to POLNET HUB location i.e. Samanvay Sadan , Sirifort Marg New Delhi

Sl. No.	Item Description	Qty	Unit	Basic Price per Unit in selcted currency (C.I.F Price in the case of foriegn bidder)	Total Amount of basic price (Basic price * Qty) in selected currency (based on column No. (3*5))	Customs duty amount (CD) (in INR)	Excise duty amount (ED) (in INR)	VAT/ST amount (in INR)	Service Tax with E. cess amount (in INR)	Freight / Insurance amount (if any) (In INR)	Agency commission amount (if any) (In INR)	Other levies if any apart from column No 7 to 12 (In INR)	Total Amount of levies (in INR) (based on column No. 7+8+9+ 10+11+12 + 13)	Year wise CMC cost (In INR)	Total amount of CAMC	Value of Column No. 6+ 12 +16 in INR for commuting L-1 status (This price value for bidder)	Total Price for delivery of stores at destination based on column No. 6+ 14+15 (NOT FOR COMMUTATION OF L-1)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Deliverable equipments and services at the Hub Site i.e.,POLNET HUB,Samanvay Sadan, Sirifort Marg, New Delhi																
1.01	750 Watts SSPA/*TWTA* System (1:1) configuration with auto changeover) with all accessories	1	set														
1.02	Low Noise Amplifier (1:1) with auto Changeover with all accessories	1	set														
1.03	Refurbishment of 11 meter antenna Replacement of wave guides, ACU , El & AzMotors) ITU recommended etc.	1	set														
1.04	Up Converter (1:1) with auto Change over with all accessories	1	set														
1.05	Down Converter (1:1) with auto Change over with all accessories	1	set														
1.06	Fully redundant Outbound carrier system based on DVB-S2 (or its latest version) technology with all accessories	1	set														
1.07	Inroutes MFTDMA Demodulators in 5:1 Redundancy with accessories	1	set														
1.08	Integrated Single NMS (Both Hardware & Software) For both Star & Mesh Network in Hot Redundancy	1	set														
1.09	Heavy Duty Printer (Redundant) For NMS	1	set														

1.10	Messaging Server (Hardware & Software)1: 1 Redundancy	1	set														
1.11	Call Manager (voice Gatekeeper) (Hardware & Software)1: 1 Redundancy	1	set														
1.12	Video Conferencing server (Hardware & Software)1: 1 Redundancy	1	set														
1.13	Video Conferencing Equipments *-40 Party Video Conferencing HD Quality*	1	set														
1.14	IP Phone	1	set														
1.15	UPS	1	set														
1.16	Signal Analyser	2	Nos														
1.17	RF Power meter	2	Nos														
1.18	Measuring and Monitoring Instrument and Tool Kit for Hub	1	Set														
1.19	Additional Equipment (Both Hardware & Software) required for the Commissioning of the New Network .	1	Set														
1.20	Manuals	2	Sets														
1.21	Installation & Commissioning of above equipments.	1	set														
1.22	Operation of Hub for 1 year from the date of commissioning.	1	set														
1.23	Warranty for three years	*1*	*HUB*														
1.24	Comprehensive Annual maintenance charges (CAMC) for 4th Year	*1*	*HUB*														
1.25	Comprehensive Annual maintenance charges (CAMC) for 5th Year	*1*	*HUB*														
1.26	Comprehensive Annual maintenance charges (CAMC) for 6th Year	*1*	*HUB*														
1.27	Comprehensive Annual maintenance charges (CAMC) for 7th Year	*1*	*HUB*														
1.28	Comprehensive Annual maintenance charges (CAMC) for 8th Year	*1*	*HUB*														
1.29	Comprehensive Annual maintenance charges (CAMC) for 9th Year	*1*	*HUB*														
1.30	Comprehensive Annual maintenance charges (CAMC) for 10th Year	*1*	*HUB*														
1.31	*Carrier In Carrier (CnC) Module in 1:1 redundancy with auto Change over with all accessories*	*1*	*set*														
1.32	*Data Terminal Equlpments (Hardware & Software)*	*5*	*Nos*														

2	Deliverable equipments and services at the Hybrid (Mesh & Star Topology) Site																
2.01	3.8 M Antenna	50	Nos														
2.02	Radio Frequency Transceiver (RFT)/ *BUC*	50	Nos														
2.03	... w Noise Block (LNB)	50	Nos														
2.04	VSAT Modem	50	Nos														
2.05	Data Terminal Equipments (Hardware & Software	50	Nos														
2.06	Multi Function device for printing	50	Nos														
2.07	UPS 5 KVA , 30 Min Backup	50	Nos														
2.08	IP Phones	50	Nos														
2.09	Video Conferencing Equipments ***-05 Party Video Conferencing HD Quality***	50	Nos														
2.10	Toolkit for Hybrid Site	50	Nos														
2.11	Manuals	50	Nos														
2.12	Installation & Commissioning of above equipments.	50	Nos														
2.13	Warranty for three years	***50***	***Sites***														
2.14	Comprehensive Annual maintenance charges (CAMC) for 4th Year	***50***	***Sites***														
2.15	Comprehensive Annual maintenance charges (CAMC) for 5th Year	***50***	***Sites***														
2.16	Comprehensive Annual maintenance charges (CAMC) for 6th Year	***50***	***Sites***														
2.17	Comprehensive Annual maintenance charges (CAMC) for 7th Year	***50***	***Sites***														
2.18	Comprehensive Annual maintenance charges (CAMC) for 8th Year	***50***	***Sites***														
2.19	Comprehensive Annual maintenance charges (CAMC) for 9th Year	***50***	***Sites***														
2.20	Comprehensive Annual maintenance charges (CAMC) for 10th Year	***50***	***Sites***														
2.21	***Additional equipments required for commissioning of the site for required mandatory services***	***50***	***Nos.***														

3	Deliverable equipments and services at the Star Topology Site																
3.01	1.8 M Antenna	*1440*	Nos														
3.02	Radio Frequency Transceiver (RFT)/ *BUC*	1700	Nos														
3.03	Low Noise Block (LNB)	1700	Nos														
3.04	VSAT Modem	1700	Nos														
3.05	Data Terminal Equipments (Hardware & Software)	1700	Nos														
3.06	Multi Function device for printing	1700	Nos														
3.07	UPS 2 KVA , 30 Min Backup	1700	Nos														
3.08	IP Phones	1700	Nos														
3.09	Tool Kits for Star Location	1700	Nos														
3.10	Additional equipments required for commissioning of the site for required mandatory services	1700	Nos														
3.11	Manuals	1700	Nos														
3.12	Installation & Commissioning of above equipments.	1700	Nos														
3.13	Warranty for three years	*1700*	*Sites*														
3.14	Comprehensive Annual maintenance charges (CAMC) for 4th Year	*1700*	*Sites*														
3.15	Comprehensive Annual maintenance charges (CAMC) for 5th Year	*1700*	*Sites*														
3.16	Comprehensive Annual maintenance charges (CAMC) for 6th Year	*1700*	*Sites*														
3.17	Comprehensive Annual maintenance charges (CAMC) for 7th Year	*1700*	*Sites*														
3.18	Comprehensive Annual maintenance charges (CAMC) for 8th Year	*1700*	*Sites*														
3.19	Comprehensive Annual maintenance charges (CAMC) for 9th Year	*1700*	*Sites*														
3.20	Comprehensive Annual maintenance charges (CAMC) for 10th Year	*1700*	*Sites*														
3.21	*2.4 M Antenna*	*255*	*Nos*														
3.22	*Video Conferencing Equipments- End Points*	*1700*	*Nos*														
4	*Deliverable Flyway equipments and services at the Hub Location*																
4.01	*Flyway Terminals*	*5*	*Nos*														
4.02	*Tool Kits for Flyway Terminals*	*5*	*Nos*														

4.03	Additional equipments required for commissioning of the flyway terminals for its required mandatory services	5	Nos														
4.04	manuals	5	Nos														
4.05	Installation & Commissioning of above equipments.	5	Nos														
4.06	Warranty for three years	5	Termin														
4.07	Comprehensive Annual maintenance charges (CAMC) for 4th Year	5	Termin als														
4.08	Comprehensive Annual maintenance charges (CAMC) for 5th Year	5	Termin als														
4.09	Comprehensive Annual maintenance charges (CAMC) for 6th Year	5	Termin als														
4.10	Comprehensive Annual maintenance charges (CAMC) for 7th Year	5	Termin als														
4.11	Comprehensive Annual maintenance charges (CAMC) for 8th Year	5	Termin als														
4.12	Comprehensive Annual maintenance charges (CAMC) for 9th Year	5	Termin als														
4.13	Comprehensive Annual maintenance charges (CAMC) for 10th Year	5	Termin als														
Total in Figures																	