

BID DOCUMENT

For

SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi

Bid document Ref: 14(1)2026-27EI(P)TV

BID DUE DATE & TIME FOR ONLINE SUBMISSION	27/07/2026 12:00 Hrs.
BID DUE DATE & TIME FOR BID OPENING	27/07/2026 13:00 Hrs.

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ABBREVIATIONS USED IN THE DOCUMENT

SL NO.	ABRIVIATION	FULL FORM
1	BDS	Bids Data Sheet
2	CPPP	Central Public Procurement Portal
3	CVC	Central Vigilance Commission
4	DP	Delivery Period
5	DSC	Digital Signature Certificate
6	EMD	Earnest Money Deposit
7	FOR	Free on Rail/Road
8	GST	Goods and Service Tax
9	GSTIN	Goods and Service Tax Identification Number
10	GTC	General Terms & Conditions
11	HSN/ SAC	Harmonized System Nomenclature / Service Accounting Code.
12	IEM	Independent External Monitor
13	IFB	Invitation for Bid
14	INR	Indian Rupees
15	IP	Integrity Pact
16	ITB	Instructions to Bidders
17	JV	Joint Venture
18	L-1	Lowest Tender
19	LPP	Last Purchase Price
20	MSME	Micro, / Small & Medium Enterprise
21	NEFT	National Electronic Funds Transfer
22	OEM	Original Equipment Manufacture
23	PBG	Performance Bank Guarantee
24	RTGS	Real Time Gross Settlement
25	SITC	Supply, Installation, Testing & Commissioning.
26	SETC:	Supply, Erection, Testing & Commissioning.

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INVITATION FOR BID (IFB)

Ref No: 14(1)2026-27EI(P)TV

Dated : 17/07/2026

To,

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi

Dear Sir/Madam,

1.1 On behalf of the Prasar Bharati (India's Public service Broadcaster), Doordarshan, Digitally signed E-tenders are invited from eligible bidders in the prescribed Bid Proforma under Two bid system for SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi for the subject in complete accordance with the following details and enclosed Bid Documents, as prescribed at Annexure, Form No.1 to 14. The details of tender are given below:

1.2 Bids Data Sheet: The brief details of the tender are as under:

1.2.1 Tender Inviting Authority	Prasar Bharati (Broadcasting Corporation of India) Director General, Doordarshan
1.2.2 Name of the Supply /Work	SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi
1.2.3 Tender Reference No.	14(1)2026-27EI(P)TV
1.2.4 Place of availability of Tender Documents (RFPs)	1. Procurement Portal of Prasar Bharati https://prasarbharati.eproc.in 2. Website of Prasar Bharati, https://prasarbharati.gov.in/ 3. Central Public Procurement Portal (CPPP): https://www.eprocure.gov.in
1.2.5 Estimated Cost of the Tender	Rupees Seven Crore Sieventy Lakhs only (Rs. 7,70,00,000/-)
1.2.6 Tender Processing Fee	As per Para 2.1.7 of "Instructions to Bidder"
1.2.7 Earnest Money Deposit (EMD)	Earnest Money Deposit (EMD) @ 3% of estimated value is Rs23,10,000/- (Twenty Three Lakhs Ten Thousand only)
1.2.8 Address to send Pre bid Queries Video Conference	Meeting queries in the prescribed Form No. 13 Email: <dddpurchase401@yahoo.co.in>
1.2.9 Nature of bid process	Two BID System 1. Technical Bid 2. Commercial Bid
1.2.10 Broad Scope of Work	As per specs no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May- 26 Dated 21/05/2026 of Annexure-D
1.2.11 Bid Validity up to:	120 (One Hundred Twenty) days from the date of opening of Technical Bid.
1.2.12 Bid Bond Validity up to :	165 days (Bid validity +45 days beyond bid validity.)
1.2.13 Date of publication of Bid	17/07/2026

1.2.14	Last Date & Time for Submission of written queries by bidders	01/07/2026 17:00 Hrs								
1.2.15	Date & Time of Pre- bid Conference	29/06/2026, 15:00 Hrs onwards								
1.2.16	Place for Pre-bid meeting (could also be processed through e-procurement portal)	Malgudi conference hall, 5th Floor, Tower-A, Doordarshan Bhawan, New Delhi Queries may be sent by email at ddpurchase401@yahoo.co.in or Queries for Pre-bid may be uploaded on the Procurement Portal of Prasar Bharati, http://prasarbharati.eproc.in in the prescribed format, Form No.13								
1.2.17	Opening of Technical bid	27/07/2026 ; 13:00 Hrs								
1.2.18	Opening of Commercial bids	To be informed later								
1.2.19	Address for Communication	ASSISTANT DIRECTOR (ENGG.) ROOM NO. 403 DIRECTROATE GENERAL: DOORDARSHAN DOORDARSHAN BHAWAN, COPERNICUS MARG, NEW DELHI- 110001 (INDIA) TELEPHONE -011-23114403								
1.2.20	Paying Authority	<table><tr><td>S. No.</td><td>Bill Processing Zone</td><td>Paying Authority</td></tr><tr><td>1</td><td>North Zone</td><td>PAO, Doordarshan, Akashwani Bhawan New Delhi – 110 011</td></tr></table>	S. No.	Bill Processing Zone	Paying Authority	1	North Zone	PAO, Doordarshan, Akashwani Bhawan New Delhi – 110 011		
S. No.	Bill Processing Zone	Paying Authority								
1	North Zone	PAO, Doordarshan, Akashwani Bhawan New Delhi – 110 011								

Note: In case the days specified above happen to be a holiday in Prasar Bharati, the next working day shall be implied.

- 1.3 Instructions to Bidders: As per Appendix-A
- 1.4 General Terms and Conditions: As per Appendix-B
- 1.5 Bid Evaluation Criteria : As Per Appendix-C
- 1.6 Delivery Period: As per Appendix-D (As per Clause 8.5 of Specification no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026)
- 1.7 Technical Specification: As per Appendix-D
- 1.8 The Bid Security/Performance Security from any Indian scheduled Commercial Bank would be acceptable.
- 1.9 Warranty/Guarantee: Required as per Clause 3.9 of Appendix-B (General Terms and Conditions)
- 1.10 **Performance Security Deposit:** Required as per Clause 3.8 of Appendix-B (General Terms and Conditions) and Annexure- 14 (Form -14).
 - 1.10.1 Amount to be **4%** of the value of the contract (To be filled by the Purchase unit; depending on the market conditions and commercial practice for the particular kind of goods, an amount, three to ten percent of the value of the contract, as specified in Rule 171(i) of GFR, 2017.)
 - 1.10.2 Performance security shall be valid up to two months after completion of work

- /supply/end of guarantee whichever is later.
- 1.11 Bids shall be submitted in electronic mode only as per the ITB; EMD/Bid Security have to be submitted in physical/net banking form by the bidder before the due date & time of the opening of the bid, and copy of the same shall also be uploaded along with the Technical Bid within the Due Date & Time of Bid Submission, to the address mentioned in Bid Data Sheet (BDS).
 - 1.12 Bidder(s) are advised to submit their bid strictly as per terms and conditions of the Tender Documents and not to stipulate any deviations.
 - 1.13 A Nil deviation Certificate as mentioned in the Form-6 shall have to be essentially submitted by the Bidder along with the Technical Bid.
 - 1.14 The Tender will be governed by the “Instruction to the Bidder” as per Appendix-A; “General Terms and Conditions” placed at Appendix-B and “Technical Specifications” at Appendix-D. The contract will be governed by Indian laws including the Indian Contract Act, 1872; the Sale of Goods Act, 1930; Right to Information Act, 2005; The Micro, Small and Medium Enterprises Development Act, 2006; Prevention of Corruption Act, 1988; and Arbitration and Conciliation Act, 1996, etc, as amended from time to time. The contract will also be governed by General Financial Rules, 2017, Manual for procurement of goods and works 2017 and 2019, Delegation of Financial Power Rules and any other financial, vigilance, security, safety, counter- trade and other regulatory aspects, orders and guidelines of the Government on the subject of Public Procurement as amended from time to time in so far as they are applicable and not inconsistent with the conditions mentioned in the tender document.
 - 1.15 Prasar Bharati will follow the reciprocal market access strategy of the Government of India, which describes on the Clause 10 (d) of Public Procurement Preference to Make in India, Order 2017. The Purchaser reserves the right to not consider any Bid and may restrict such Bidders from the bidding process who originate from those countries, where they do not allow market access for Indian companies; in such cases, the Clause 10(d) of Public Procurement Preference to Make in India, order 2017, shall be invoked wherever applicable, when it is relevant.
 - 1.16 Single Stage Two Bid Systems shall be followed for this tender. Bidders should take due care to submit tenders in accordance with Bid requirements as specified in clause 2.1 of “Instruction to Bidders” (Appendix-A). Bid evaluation Criteria at Appendix-C shall be the basis for evaluation of tenders.
 - 1.17 For Payment terms pertaining to Supply contracts and SITC/SETC Contracts, please refer to clause 2.24 of the tender document.
 - 1.18 As per clause 171(1) of CGST Act, 2017 which relates to anti-profiteering measure, any reduction in rate of tax on any supply of goods and or services or both, the benefit of input tax credit shall be passed on to the recipient by way of commensurate reduction in prices.
 - 1.19 THE FOLLOWING SHOULD BE SUBMITTED ALONG WITH THE TENDER.
 - 1.19.1 Original Equipment's Manufacturer's authorization for equipment quoted.
 - 1.19.2 Documents as specified in Technical specifications at Appendix-D
 - 1.20 Paying Authority:

S. No.	Bill Processing Zone	Paying Authority
1	North Zone	PAO, Doordarshan, Akashwani Bhawan New Delhi – 110 011

Note:-Supplier has to provide Consignee-wise Tax Invoices to respective Bill Processing Authorities. The GST Compliant Invoices should have firm's GSTIN & Consignee GSTIN.

- 1.21 Prasara Bharati follows e-tendering Process; Bid shall be submitted only on <http://prasarbharati.eproc.in>. The responsive Bids shall be decided according to various aspects mentioned in ITB, GTC and Eligibility conditions mentioned in the Bid Document. Before the Bid submission, Bidders are advised to refer the help manuals and general FAQs provided in the E-procurement Portal regarding the e-tendering.
- 1.22 Clarification(s)/Corrigendum(s) if any shall also be available on referred above websites, Para 1.2.4. Any revision, clarification, addendum, corrigendum, time extension, etc. to the Tender Document will be hosted on the above mentioned website(s) only. Bidders are requested to visit the website regularly to keep themselves updated.
- 1.23 **EVALUATION METHODOLOGY:** Price evaluation shall be as under: The “Schedule of Rates / Prices” quoted for complete scope of work /Supply inclusive of GST shall be taken up for evaluation, **on overall L-1 basis**.
- 1.24 Purchase Preference (Linked with Local Content): Applicable as per government guideline/Tender Document. (Refer Para 4.6)
- 1.25 In case any cess on GST is applicable same shall also be considered in evaluation.
- 1.26 The Bidders shall quote on FOR destination basis only.

For & on behalf of Prasara Bharati,

Name:

Designation: Assistant Director (Engg.)

E-mail ID : ddpurchase401@yahoo.co.in

Contact No. : 011-23114403/23114401

INSTRUCTION TO BIDDERS (ITB)

2.1 INSTRUCTIONS TO BIDDERS FOR ONLINE BID SUBMISSION:

- 2.1.1** The scope of work / Supply of stores to be tendered are available in the complete bid documents which can be viewed / downloaded free of cost from e-procurement portal of Prasar Bharati, <https://prasarbharati.eproc.in>, or from the website Prasar Bharati, www.prasarbharati.gov.in or CPP Portal <http://eprocure.gov.in>.
- 2.1.2** Both Technical Bid and Financial Bid will be submitted concurrently duly digitally signed on the website <https://prasarbharati.eproc.in>
- 2.1.3** No claim shall be entertained on account of any Technical snag or disruption of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last minute technical snags.
- 2.1.4** All Corrigendum/Amendment/Corrections, if any, will be published on the website <https://prasarbharati.eproc.in>
- 2.1.5** All documents / papers uploaded / submitted by the bidder must be in English and legible.
- 2.1.6** It is mandatory for all the applicants to have Class-III Digital Signature Certificate, with both DSC Components i.e. signing & Encryption, (in the name of the person who will sign the bid document) from any of the licensed Certifying Agency. Bidder may contact the Service provider of e-procurement Portal, at mobile no. +91-8130606629 for DSC related queries or can email at vikas.kumar@c1india.com/prasarbharatisupport@c1india.com.
- 2.1.7** The Bidders/ Vendors shall be charged the Processing Fees in according with the Estimated Cost of respective Tenders. The following are the charges to be paid by the Bidders /Vendors on the e-procurement portal:

Estimated value of Tender	Processing fees	
	Per Tender Per Bidder	Total including GST
Less than or Equal to Rs. 10 Lakhs	₹ 475.00 + 18 % GST	₹560.50
More than 10 Lakhs but Less than or equals to 50 Lakhs	₹ 925.00 + 18 % GST	₹1091.50
More than 50 Lakhs	₹ 1150.00 + 18 % GST	₹1357.00
Annual charges for Online Bidder / Vendor for the Registration	₹ 450.00 + 18 % GST	₹531.00

- 2.1.8** To participate in the e-bid, it is mandatory for the Applicants to get themselves registered with the Prasar Bharati e-Tendering Portal (<https://prasarbharati.eproc.in>) to have a user ID & Password which has to be obtained by submitting a non-refundable annual registration charges of Rs. 450/- plus 18% GST through online mode (net banking/debit card/credit card). Validity of Registration is 1year.

- 2.1.9 Page No. shall be given on each and every paper/documents serially uploaded in the technical bid.
- 2.1.10 Bidders shall ensure to quote rate of each item. If any cell is left blank and no rate is quoted by the bidders, the rate of such item shall be treated as “0” (Zero).
- 2.1.11 To participate in bidding, bidders have to pay Tender Processing Fee as mentioned in the Para 2.1.7 through online mode (net banking/debit card/credit card).
- 2.1.12 The Bidder may modify or withdraw their bid after submission prior to the Bid Due Date. No Bid shall be modified or withdrawn by the Bidder after the Bid Due Date and Time.
- 2.1.13 The Bid Security/Earnest Money shall be in the form of Account Payee Demand Draft, NEFT/RTGS (SBI Account Number: 11084233516, IFSC Code : SBIN0000691) from any scheduled bank (s), Fixed Deposit Receipt) FDR, Insurance Surety Bonds, Bankers Cheque or Bank Guarantee from an India scheduled Commercial Bank (including e-bank Guarantee), in favour of PB:BCI, DG:DOORDARSHAN, NEW DELHI In case of EMD Exemption, letter along with NSIC Certificate for MSME in the concerned category of the Tendered items, (Ref Format “Form-3, MSME Exemption”) will be submitted.
- 2.1.14 Bid Security/EMD shall be placed in a single sealed envelope superscripted with tender reference no. and date of opening so as to reach <Asstt. Director Engg. (Purchase)/Assistant Engineer (Purchase) in Room No.403, Directorate General: Doordarshan, Doordarshan Bhawan, Copernicus Marg, New Delhi> before scheduled time on prescribed tender opening date. EMD received after Tender opening date shall be summarily rejected along with the corresponding Tender. Hard copy of any other tender document shall not be accepted. Soft copy of the EMD should be uploaded while submitting bids on e-tendering portal.
- 2.1.15 Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department or Start-ups as recognised by Department of Industrial Policy & Promotion (DIPP) shall be exempted from payment in respect of cost of Earnest Money as per the Government instructions on the subject on submission of documentary evidence of valid Registration in the concerned category of the Tendered items.
- 2.1.16 The successful bidders will be required to furnish Performance Security Deposit within 30 days of placement of contract at the rate of **Four (4) %** (three to ten per cent of the value of the contract,(Ref: Circular-05/PP/2023 Dated 06/05/2023 issued by Procurement Policy Wing of Prasar Bharati) in one of the acceptable forms as per tender documents. Performance Security shall be in the form of Account Payee Demand Draft, Insurance Surety Bonds, NEFT/RTGS from any scheduled bank (s) Fixed Deposit Receipt (FDR), Bankers Cheque or Bank Guarantee (including e-Bank Guarantee from an India scheduled Commercial Bank in an acceptable form.
- 2.1.17 Technical Bid must contain scanned copy of Unconditional Acceptance of Prasar Bharati’s Tender Terms &Conditions, GST details and EMD etc.
- 2.1.18 In case of payment through net-banking the money will be immediately

transferred to Prasar Bharati's designated Account through NEFT/RTGS from any scheduled bank(s), the bidder will have to furnish the UTR Remittance Number(s) before submission of bid, payment details shall also be uploaded on e-procurement portal along with Bid. The payment of EMD through NEFT /RTGS mode should be made well ahead of time to ensure that the EMD amount is transferred to Prasar Bharati account before submission of bid.

- 2.1.19** The financial Bid shall be opened only of those Bidder(s) found to be meeting the Technical qualifying requirements. In case of nonresponsive Bids, Financial Bids shall not be opened. The opening date of financial bid will be decided later on and same will be informed to eligible Bidders in advance.
- 2.1.20** Bidders are advised to submit written queries in advance of the Pre-Bid Meeting. The Form # 13 can be used for this purpose. The Pre-Bid queries may also be submitted through e-procurement portal of Prasar Bharati. After the Meeting, the techno-commercial requirements may be revised, if considered necessary. After that no request/query will be entertained.
- 2.1.21** Prasar Bharati reserves the right to accept or reject any or all applications without assigning any reasons. Prasar Bharati also reserves the right to annul the tender process at any stage without assigning any reason.
- 2.1.22** If any clarification is needed from the bidder about the deficiency in his uploaded documents, he will be asked to provide it through e-procurement portal of Prasar Bharati. The bidder shall upload the requisite clarification/documents within time specified by Prasar Bharati, failing which tender will be liable for rejection.
- 2.1.23** Prasar Bharati reserves the right to reject whose performance at ongoing Supply/ Work(s) is below par and usually poor and has been issued letter of restrain/Temporary/Permanent debar by any office of Prasar Bharati, Government or Public sector. (Rule 151, GFR 2017) Prasar Bharati reserves the right to verify the credential submitted by the agency at any stage (before or after the award of the work). If at any stage, any information /documents submitted by the applicant is found to be incorrect/false or have some discrepancy which disqualifies the firm then Prasar Bharati shall take the following action:
 - 2.1.23.1** Forfeit the entire amount of EMD submitted by the firm.
 - 2.1.23.2** The agency shall be liable for debarment from tendering in Prasar Bharati, apart from any other appropriate contractual/legal action.
 - 2.1.23.3** Public procurement policy for Micro, small and medium enterprises registered under MSME shall be followed as per the directives of Government of India prevailing at the date of acceptance
- 2.1.24** Bidders have to submit a GST Registration Certificate while uploading the tender.
- 2.1.25** Bidders shall separately indicate the HSN/SAC code, rate and amount of GST for each quoted item as applicable on the date of tendering in their offer, failing which the offer may be rejected.
- 2.1.26** IGST and Compensation Cess (wherever applicable) will be levied on imports.

2.1.27 Terms & Conditions given in Technical specifications will supersede for conflict with any terms & conditions given in Tender Document.

2.1.28 For Consortium / Joint Venture: :

In case of a Consortium/JV, Power of Attorney issued by Board of Directors/ Chairman/CEO / MD / Company Secretary of the Consortium Lead Member as well as Consortium Member(s) of the Consortium/ partners of JV, in favour of the authorised employee(s) of the Consortium /Lead member of JV, for signing the documents on behalf of the Bidder, in respect of this particular tender, to sign the Bid and all subsequent communications, agreements, documents etc. pertaining to the tender and act and take any and all decisions on behalf of the Consortium/JV, are to be submitted.

2.1.29 The authorized employee(s) of the Bidder shall be signing the Bid and any consequence resulting due to such signing shall be binding on the Bidder.

2.1.30 Bids from consortium/ JV of two or more members (maximum 3 nos. Including Leader) are acceptable provided that they jointly fulfill the qualification criteria and requirements stated in the Tender Documents. Participating Consortium/ JV shall submit the Agreement, clearly defining the scope and responsibility of each member. Members of consortium/ JV shall assume responsibility jointly & severally. The bid security shall be submitted by the Lead Bidder of the Consortium/ JV. In case of award, payment shall be made to the Lead Bidder of the Consortium/JV.

2.1.31 The Consortium/ JV Agreement must clearly define the Consortium Leader/ Lead Partner of JV, who shall be responsible on behalf of the Consortium/JV during the period of evaluation of the bid as well as during the execution and timely completion of all the contractual obligations and shall receive/ send instructions for and on behalf of the Consortium/JV..

2.1.32 A Consortium/ JV once established at the time of submitting the Bid shall not be allowed to be altered with respect to constituting members of the Consortium/ JV or their respective roles/ scope of supply/work, except with prior written approval of Prasar Bharati. If during the evaluation of bids, a Consortium/ JV propose any alteration/ changes in the orientation of Consortium/JV or replacements or inclusions or exclusions of any partner(s)/ member(s) which had originally submitted the bid, bid from such Bidder shall be liable for rejection.

2.1.33 Any member of the Consortium/ JV shall not be eligible either in an individual capacity or be a part of any other Consortium/JV to participate in this tender. Further, no member of the Consortium/ JV should have been put on 'Holiday' or banned/ blacklisted by Prasar Bharati/ Government department/ Public Sector as on the due date of submission of bid. Offer submitted by such Consortium/ JV shall not be considered for opening/evaluation/Award.

2.2 ONE BID PER BIDDER

2.2.1 A Bidder shall submit only 'one [01] Bid' in the same Bidding Process. A Bidder who submits or participates in more than 'one [01] Bid', will cause all the Bids in which the Bidder has participated to be disqualified.

2.2.2 Alternative Bids shall not be considered.

- 2.2.3 Any Bidder having formed a JV/Consortium shall not be considered eligible to make JV/ consortium with any other bidder or form part of any other JV/Consortium and submit a Bid for the same tender.
- 2.3 COST OF BIDDING**
- 2.3.1 The Bidder shall bear all cost associated with the preparation and submission of the Bid including but not limited to Documentation Charges, Bank charges, all courier charges, translation charges, authentication charges and any associated charges including taxes & duties thereon. Further, Prasar Bharati will in no case be responsible or liable for these costs, regardless of the outcome of the bidding process.
- 2.3.2 The Bidder shall not be entitled to hold any claim against Prasar Bharati for non- compliance due to lack of any kind of pre-requisite information as it is the sole responsibility of the Bidder to obtain all the necessary information with regard to site, surrounding, working conditions, weather etc. on its own before submission of the Bid.
- 2.4 **For more information regarding submission of Bid in the e- Procurement portal, Bidders may refer the help manuals and, General FAQs (Frequently Answered Questions) about the e-Tendering, which has been provided in the Portal.**
- 2.5 **LIST OF DOCUMENTS (to be uploaded with tender):**
- 2.5.1 **PART-I: "TECHNO-COMMERCIAL / UNPRICED BID"**
- 2.5.1.1 'Covering Letter' on Bidder's 'Letter head' clearly specifying the enclosed contents.
- 2.5.1.2 'Bidder's General Information', as per 'Form-1' along with Copy of 'PAN' and 'GST' registration and 'Bid Form', as per 'Form-2'
- 2.5.1.3 Scanned copy of EMD along with Form-4 or Declaration of MSME as per Form-3
- 2.5.1.4 Copies of documents required as per 'Form -5 (May be modified, if required) and as mentioned elsewhere in the Tender Document.
- 2.5.1.5 Nil deviation Certificate as per 'Form-6'.
- 2.5.1.6 Declaration regarding Holiday/Banning, in 'Form-8
- 2.5.1.7 Letter of Authority' on the Letter Head, as per 'Form-9
- 2.5.1.8 DD's Tender Document along with Technical Specifications should be duly signed on each page.
- 2.5.1.9 Original Equipment's Manufacturers (OEM) Authorization for Equipment quoted.
- 2.5.1.10 Letter of authority to sign and upload bid documents.
- 2.5.1.11 Undertaking regarding Fall Clause as mentioned in Para 3.22.3
- 2.5.1.12 Enclosures as per Commercial requirement.
- 2.5.1.13 Enclosures as per Technical requirement (as per Technical Specification attached in Appendix -D)
- 2.5.1.14 **Certificates for Local Content as per Form-11.**
- 2.5.1.15 Duly filled and signed Integrity Pact / Undertaking as per Form 12A (for estimated contract value of Rs. Two Crore or more) / 12B (for less than Rs. Two Crore).
- 2.5.1.16 Certificates as mentioned on Para 2.33.8 along with evidence of valid registration by the Competent Authority to be attached, if applicable.
- 2.5.1.17 Any other information/details required as per Tender Document

- 2.5.2 PART-II: Price Bid (APPENDIX-F - Schedule of Rate)**
(As per the Tender, the reference of the Schedule of Rate may be specified here)
- 2.6** All GTC attached with the “Invitation to Tender” are sacrosanct for considering any offer as a complete offer. It is therefore important that all documents duly completed and signed are returned with the Bidder’s offer.
- 2.7** Prasar Bharati shall have all right to ignore any offer which fails to comply with the above instructions.
- 2.8** The Bid shall be submitted online not later than the time specified in the tender document, or on the notified date of closing of the tender. Offers sent through any mode other than uploading on e-procurement portal of Prasar Bharati will not be accepted.
- 2.9** Any change in quotation after opening of tender will not be considered. Bidders must ensure that all the documents / files uploaded on e- procurement portal are in order and legible in all respect. Prasar Bharati will not be responsible for any documents / files illegible or corrupted due to any disruption/ technical snag of internet service being used by the bidders.
- 2.10 VAGUE AND INDEFINITE EXPRESSION**
Tenders qualified by vague and indefinite expressions such as "subject to immediate acceptance" or "subject to prior sale" etc. will not be considered. Unconditional Bids shall only be considered.
- 2.10.1 VALIDITY PERIOD OF OFFER**
- 2.10.1.1** The Tender shall be valid for acceptance for the period as indicated in the "Invitation to Bid" (hereinafter referred to as validity period) and shall not be withdrawn on or after the opening of tenders till the expiration of the validity period or any extension thereof.
- 2.10.1.2** The offers of these Bidders who have not kept the validity open till the period stipulated in the tender will be treated as unresponsive and will be ignored without making any back reference.
- 2.10.1.3** The Bidder will undertake not to vary/modify the tender during the validity period or any extension thereof.
- 2.11 OPENING OF TENDERS**
- 2.11.1** The tender will be opened online on the e-tendering portal of PrasarBharati<https://prasarbharati.eproc.in> at the time specified in the tender document, on the date of opening indicated in the "Invitation to Bid.", in the presence of bidders' authorized representatives who choose to attend.
- 2.11.2** In case of unscheduled holiday on the closing/opening day of tender, the next working day will be treated as scheduled prescribed day of closing/opening of tender; the time notified remains the same.
- 2.11.3 PRICES FOR BIDDERS**
Bidders are to quote in INR only on FOR Destination basis.
- 2.12 VARIATION OF QUANTITIES (Ref: PARA 7.5.3 MFP 2017)**
At the time of awarding the contract, Prasar Bharati shall have right to re-judge

the quantity to be procured based on the current data, since the ground situation may have very well changed. The tendered quantity can be increased or decreased by 25 (Twenty-Five) per cent for ordering, if so warranted.

2.13 OPTION CLAUSE:

Prasar Bharati reserves the right to increase/decrease the ordered quantity by up to 25 (Twenty Five) per cent at any time, till final delivery date (or the extended delivery date of the contract), by giving reasonable notice even though the quantity ordered initially has been supplied in full before the last date of the delivery period (or the extended delivery period)

2.14 TAX LIABILITY

2.14.1 The Bidder shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/ production up to the point of delivery. Further instruction, if any, shall be as provided in the Schedule of Requirements.

2.14.2 Payment of CGST/SGST/UTGST/IGST and all other applicable taxes (on ultimate products and Services) and custom duty, as applicable on the closing date of tender will be to supplier's /contractor's account. In the case of "Two Bid" system where revised price bids are permitted after technical discussions payment of these charges as applicable on closing day of revised price bids, will be to supplier's /contractor's account. Any increase over the rate existing on the last date of submission of Bid shall be reimbursed by the Organisation on production of documentary evidence in support of payment actually made to the concerned authorities. Similarly, if there is any decrease in such duties, taxes and levies the same shall become recoverable from the contractor. The details of such duties, taxes and other levies along with rates shall be declared by the bidder.

2.14.3 The bidder(s) will indicate in their bid the amount with exact rate of customs duty and the applicable item of custom tariff under which it is covered. Similarly, the amount of CGST/SGST/UTGST/IGST and all other applicable taxes on ultimate furnished product with HSN/SAC code, as applicable at tendering stage will be shown separately in the bid. In case the above information subsequently proves wrong incorrect or misleading

(a) This Organization will have no liability to reimburse the excess in the difference in rates of the item under which the duty/ tax assessed finally

(b) This Organization will have the right to recover the difference in case the rate of duty/ tax finally assessed is on the lower side.

2.14.4 Contractor shall ensure timely submission of invoice(s) as per rules/ regulations of GST with all required supporting document(s) to enable Prasar Bharati to avail Input Tax Credit (ITC). Further, returns and details required to be filed under GST laws & rules should be timely filed by supplier with requisite details.

2.14.5 If input tax credit (ITC) with respect to GST (CGST & SGST/UTGST or IGST) which normally shall be available to Prasar Bharati, is not available, for any reason, which is not attributable to Prasar Bharati, then Prasar Bharati shall not be obliged or liable to pay or reimburse GST (CGST & SGST/UTGST or IGST) charged in the invoice(s) and shall be entitled to/ deduct/ setoff/ recover the such GST (CGST & SGST/UTGST or IGST) thereupon together with all

penalties and interest if any, against any amounts paid or payable by Prasar Bharati to Supplier/ Vendor.

2.14.6 The rates and prices quoted by the Bidder shall be fixed for the duration of the contract and shall not be subject to variations on any account except to the extent variations allowed as per the conditions of the contract of the bidding document.

2.15 TRADE/ VOLUME DISCOUNT

Bidders will not indicate a separate discount. Discount, if any, should be merged in the rates against the quoted items(s). Discount of any type indicated separately will not be taken into account for evaluation purposes.

2.16 ELIGIBILITY CRITERIA

2.16.1 Bids should preferably be from original manufacturers, however, Bids from sole selling agents/authorised distributors/authorised dealers can also be considered provided such bids are accompanied with necessary supporting documents/authority letter from concerned original manufacturer who authorised them to market their product, provided further, such an authority letter is valid at the time of bidding. Required Warranty Cover of the manufacturer for the product will be provided by such a supplier through OEM. The Bidder shall not be under a declaration of ineligibility by Purchaser for Corrupt/ Fraudulent/ Collusive/ Coercive practices,

2.16.2 The Bidder is not put on 'Holiday' by Prasar Bharati or any of the Government departments, Public Sector or banned/blacklisted by Government department/ Public Sector on the due date of submission of bid. If the Bid submitted by such Bidder shall not be considered for opening/ evaluation/ award and in case of Manual Tendering, such Bid along with the Bid Security, if any, will be returned immediately to the Bidder.

2.16.3 Bidder should meet experience and other criteria, if any as specified in Appendix-D and basic guidelines/ eligibility criteria as under:

2.16.3(a) Company Existence	Company should be registered under Companies Act, 1956 or Companies Act 2013 or a Partnership firm / LLP registered in India under Partnership Act 1932/2008 as amended and should have been in operations in India in the last 3Years.
2.16.3(b) Annual Turnover/ Net Worth (CA certified documents) (Except the Covid FYs 2020-21 and 2021-22)	Average Annual turnover of 200% of estimated cost of the project in the last 03 financial years Or Cumulative Turnover of 600% of estimated cost of the project in the last 03 financial years Or Average Annual Net Worth of minimum of 50% of estimated cost of the project in the last 03 financial years Or Cumulative Net Worth of minimum of 150% of estimated cost of the project in the last 03 financial years
2.16.3(c) Positive Net	Profitable / positive net worth in the last financial

Worth/ Profitability	year Solvent entity (CA certified documents)
2.16.3(d) Work Experience (Self - certified with relevant documents)	One Similar work of minimum value of 80% of estimated cost of the project or Two Similar worksof minimum value of 60% of the estimated cost of project or Three Similar works of minimum value of 40% of the estimated cost of project Note: Similar works will be defined based on scope of the work. Similar works may be executed with any Central and State Government agency, PSUs, Private organizations.
2.16.3(e) Non – Blacklisting Certificate	The bidder should not have been blacklisted /debarred by any Governmental / Non – Governmental Organisation in India as on bid submission date.
2.16.3(f) Certification, if required	The Bidder should have valid ISO 9001:2008/ ISO 9001:2015/ ISO 27001 (relevant certification based on type of work) valid as on bid submission
2.16.3(g) GFR Restrictions/Norms, if required	Bidder complies with restrictions on procurement under rule 144 (xi) vide order no: 06/18/2019-PPD dated 23rd July 2020 inserting Rule 144(xi) in GFRs 2017
2.16.3(h) Preferential Market Access	Bidder should comply with Preferential Market Access (PMA) order 2017, guidelines notified by DPIIT and DoT with all its clarifications / amendments, if applicable.

However nothing in this shall prevent Prasar Bharati from engaging new and emerging Technology start-ups in the areas of R&D and innovation from time to time. Relaxation for Start-ups as per Government guidelines would apply (GFR Rule 173(1) relaxes DPIIT recognised Start-ups from prior experience and prior turnover requirements subject to meeting of quality and technical specifications and making suitable provisions in the Bid document).

2.17 PURCHASE PREFERENCE

2.17.1 Purchase preference to Central Government Public Sector Undertaking, Micro, Small& Medium Enterprises (MSMEs) and Domestically Manufactured Electronic Products (DMEP) shall be allowed as per Government instructions in vogue, as applicable necessary supporting documents to be furnished by the bidder.

2.17.2 Public Procurement (Preference to Make in India) Order No. P-45021/2/2017-B.E-II dated 15.06.2017 of Government of India, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion and its amendments

shall be applicable. Purchase preference for the domestic manufacturer, the methodology of its implementation, value addition to be achieved by domestic manufacturers, self-certification, and modalities for compliance and monitoring shall be as per the Para 4.6.

2.18 SCOPE OF SUPPLY OF EQUIPMENT/SITC/SETC:

The delivery of the stores/execution of SITC/SETC is required as stated in “Invitation to Bid” on terms specified in the description of Stores/SITC/SETC and Technical Specifications mentioned at Appendix-D , subjected to the terms “General Terms and Conditions” at Appendix-B.

2.19 CONSIDERATION OF OFFER IN FULL OR IN PART

This Organisation may reject/accept or prefer any tender without having to assign any reason whatsoever. This Organisation also reserves to itself the right to accept any tender in part or split the order between two or more bidders.

2.20 SPECIFICATIONS

2.20.1 If this Organisation finds that materials supplied/works carried out are not of correct quality, quantity and are not according to required specifications or are not satisfactory owing to any reason of which the Organisation will be the sole judge, the Organisation will be entitled to cancel the contract for supply of stores/SITC/SETC and meet its requirements of stores/SITC/SETC from the open market at the risk and cost of the supplier/contractor, reserving always to itself the right to forfeit the security deposit placed by the supplier/contractor for fulfillment of the contract.

2.21 BID SECURITY/ EARNEST MONEY/SECURITY DEPOSIT/PERFORMANCE BOND:

2.21.1 Earnest Money/Bid Bond : The bidders must submit Earnest Money/ Bid Bond on or before the last date & time of submission of bid in the form of FDR, Bank Draft or Bank Guarantee of any Scheduled Commercial Bank in India in case of Indian supplier or Bank Guarantee/Demand Draft in equivalent Indian currency from a Scheduled Commercial Bank in favour of “PB:BCI, DG: DOORDARSHAN, NEW DELHI” or in lieu thereof bid bond in the enclosed Proforma at Form - 4 from a Scheduled Indian Commercial Banks for the amount specified in Para 1.2.7 of “Invitation to Bid”. In case of Bank Guarantee obtained from the foreign Bank, it should be guaranteed by a Scheduled Indian Commercial Bank and must be governed by Indian Laws subject to jurisdiction of the court of New Delhi. The bid bond should initially be valid up to 45 days beyond the period of Bid validity (except for the Demand draft whose validity should be 90 days).

2.21.2 Offers without Earnest Money/Bid Security will be ignored. Offers with Earnest Money /Bid Security deposited of shorter validity will also be ignored.

2.21.3 Bidders exempted from EMD are to submit required documents.

2.21.4 The earnest money/bid bond of unsuccessful bidders will be returned on finalisation or after the award of the Tender to the Lowest Bidder (L1), and the earnest money/bid bond of the successful bidder will be returned on receipt of requisite security deposit/Performance Bond.

2.21.5 FORFEITURE OF EMD: The earnest money/Bid bond deposited by the

Bidder shall be forfeited by this Organisation in the following events:

- 2.21.5.1 If tender is withdrawn during the validity period or any extension thereof;
- 2.21.5.2 If Bid is amended or modified unsolicited, during the validity period or any extension thereof;
- 2.21.5.3 If a Bidder, whose tender has been accepted, fails to furnish Security deposit, performance bank guarantee within 30 (Thirty) days of the receipt of order/ advance order/ letter of intent;
- 2.21.5.4 In case of tenders in which only a single bidder qualifies or in cases of procurement on PAC basis, if the Bidder decides at any stage not to participate further in the tender but in spite of withdrawing on his own, he deliberately delays the tendering process to let the validity period expire;
- 2.21.5.5 If, the bidder is not earnest about their bid, and withdraws it before the completion of Technical Evaluation against the accepted specification, at the time of bidding and before the validity period or any extension thereof;

2.22 SECURITY DEPOSIT/PERFORMANCE BOND.

The successful bidder, within 30 (Thirty) days of the receipt of order/advance order/letter of intent, will be required to send Security Deposit in the form of Account Payee Demand draft, NEFT/RTGS from any scheduled bank(s), Fixed Deposit Receipt (FDR), Bankers Cheque or Bank Guarantee from an Indian scheduled Commercial Bank favour of PB:BCI, DG:DOORDARSHAN, NEW DELHI or in lieu thereof Performance Security/Bank Guarantee for the amount as indicated in the Para 1.7.1 of "Invitation to Bid".

2.23 NAME OF MANUFACTURER AND CERTIFICATE OF ORIGIN

The name of the manufacturer should be clearly mentioned in the offer. The Bidder shall have to furnish information of country of origin of each offered item.

2.24 PAYMENT TERMS

2.24.1 Schedule of Payments:

2.24.1.1 For Supply Contracts:

The supplier will submit bill for 90% of the basic amount and 100% of the GST applicable on the total basic amount along with a copy of Inspection Notes and provisional Consignees Receipt certificate to concerned Zonal Offices who will, after verifying bills, pass on to the respective PAOs for making payment. The bill for the balance 10% basic amount shall be submitted by the suppliers after receipt of final consignees receipt certificates.

2.24.1.2 For SITC/SETC Contracts:

The supplier will submit bill for 80% of the material/equipment basic cost and 100% of the GST applicable on the total basic amount of material/equipment supplied along with a copy of Inspection Notes and Provisional consignees Receipt certificate to concerned Zonal Offices who will, after verifying bills, pass on to the respective PAOs for making payment. The bill for balance 20% of material/equipment cost along with 100% installation/Erection, Testing & commissioning charges, if any, shall be submitted by the suppliers after receipt of final consignees receipt

certificates and satisfactory installation/Erection, Testing& commissioning certificate whichever required.

(Note: GST shall be paid only once against an order. Supplier will submit invoice accordingly.)

2.24.2 The payment shall be made on receipt of the goods by the consignee and upon submission of following documents.

- a. The supplier's invoice showing contract number, description of goods, quantity, unit price and the total amount;
- b. Delivery note;
- c. Packing list identifying contents of each package;
- d. Certificate of origin.
- a. Provision receipt certificate for the corresponding delivery, issued by the consignee indicating acceptance of materials at site in good condition;
- b. Any other document(s) and/or modification of above documents specified in the Schedule of Requirement and the contract.

2.24.3 Advance Payment

2.24.3.1 Ordinarily, Prasar Bharati (PB) would disburse payments for services rendered or supplies made, only after the services have been rendered or supplies made. However, in case of supply of services and turnkey projects and maintenance contracts, advance payment might be considered only on request of the contractor/supplier in cases where it is considered absolutely necessary and justification accepted by Prasar Bharati (PB).

2.24.3.2 Advance payment will only be released after submission of an unconditional Bank Guarantee by the contractor/supplier. The Bank File No.IT-1/102/SBD/2020-IT&PP 963460/2023/Procurement Policy – PBS 39/46983168/2023/Purchase Section - DG DD 4456 Guarantee shall be from a Commercial bank acceptable to the Procuring Entity in amounts equal to 110% (one hundred ten percent) of the amount of the advance payment being requested and subsequent verification of the Bank Guarantee. The Bank Guarantee shall remain effective until the advance payment has been adjusted. The amount of advance payment against contract for supply of stores shall be restricted to:

2.24.3.2.1 Thirty per cent of the contract value (without taxes) to private firms;

2.24.3.2.2 Forty per cent of the contract value (without taxes) to a state or central Government agency or PSU;

2.24.3.2.3 In case of maintenance contract, the amount shall not exceed the amount payable for six months under the contract.

2.24.3.3 An assurance in the shape of indemnity bond/insurance shall be submitted by the vendor in every case where advance payment is to be made. The goods supplied under the contract, shall be fully insured by the contractor/supplier in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the contract. The amount to be covered under insurance should be sufficient to take care of the overall expenditure to be incurred by the procuring entity for receiving the goods at the destination.

2.24.3.4 The advance paid shall be progressively adjusted against bills within the schedule of payments along with the applicable taxes.

2.24.3.5 Normally, interest shall not be charged on the advance payment. However, in case of breach of contract by the supplier/contractor and thereby termination of

contract by Prasar Bharati, the Advance shall be deemed an interest bearing advance at the prevailing rate (MIBID - Mumbai Inter bank Bid Rate) on the date of such advance payment.

2.25 UNSOLICITED POST TENDER MODIFICATION

2.25.1 In case certain clarifications are sought by this Organisation after opening of tenders, then the reply of the bidder should be restricted to the clarifications sought.

2.25.2 Any bidder who modifies his bid(including a modification which has the effect of altering the value of his offer) after the closing date without specific reference by this Organisation shall render the bid liable to be ignored and rejected without notice and without further reference to the bidder.

2.25.3 Canvassing in any form by the bidders shall also render the bid liable to be ignored and rejected without notice and without further reference to the bidder.

2.26 CLARIFICATION IN RESPECT OF INCOMPLETE OFFERS

2.26.1 This Organisation has to finalise its purchase within a limited time schedule. Therefore, it may not be feasible in all cases for this Organisation to seek clarifications in respect of incomplete offers. Prospective bidders are advised to ensure that their bids are complete in all respects and conform to our terms and conditions and Bid Evaluation Criteria of the tender. Bids not complying with this Organisation's requirements may be rejected without seeking any clarifications .However, during evaluation and comparison of bids, Prasar Bharati at its discretion, may ask the bidder for clarifications on the bid. The request for clarification shall be given in writing by registered email Id or through e-procurement Portal, asking the Bidder to respond by a specified date, and also mentioning therein that, if the Bidder does not comply or respond by the date, his Bid will be liable to be rejected. Depending on the outcome, such tenders will be ignored or considered further. No change in prices or substance of the bid shall be sought, offered or permitted. No post bid clarification at the initiative of the bidder shall be entertained.

2.26.2 The Bidder shall quote the prices in 'figures' & words. There should not be any discrepancy between the prices indicated in figures and the price indicated in words. In case of any discrepancy, the same shall be dealt as follows:

2.26.2.1 When there is a difference between the rates in figures and words, the rate which corresponds to the amount worked out by the Bidder (by multiplying the quantity and rate) shall be taken as correct.

2.26.2.2 When the rate quoted by the Bidder in figures and words tallies but the amount is incorrect, the rate quoted by the contractor shall be taken as correct and not the amount and the amount corrected.

2.26.2.3 When it is not possible to ascertain the correct rate, in the manner prescribed above, the rate as quoted in words shall be adopted and the amount worked

2.27 AFTER SALES SERVICE AND TRAINING- As per clause 8.3 and Point J of BOM of Specification no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026

2.28 REPLACEMENT/ RECTIFICATION

In the event the stores supplied or SITC/SETC carried out against the contract are found to be defective, the supplier/contractor will have to take back the

defective materials at his own cost and replace/rectify the defects of the Stores/SITC/SETC free of charge without loss of time. The supplier will not be entitled to dispose of the store/equipment/material given for replacement/rectification without the prior permission of this Organisation. All charges concerned with the rectification including freight charges will be borne by the supplier/contractor.

2.29 EVALUATION/ SCRUTINY OF BIDS.

In evaluation of the techno-commercial bid, conformity of the eligibility/qualification, technical and commercial conditions of the offered goods to those in the bid document is ascertained. Technical requirement, incorporated in the Appendix-D of tender documents will also be considered in the manner indicated therein. Evaluation will be based only on the conditions included in the tender document.

2.30 SIGNING OF AGREEMENT

2.30.1 Prasara Bharati will award the Contract to the successful Bidder, who, within 'fifteen [15] days' of receipt of the same, shall sign and return the acknowledged copy to Prasara Bharati.

2.30.2 The successful Bidder/Contractor shall be required to execute an 'Agreement' in a Performa on a 'non-judicial stamp paper' of appropriate value [cost of the 'stamp-paper' shall be borne by the successful Bidder/Contractor] and of 'state' specified only, within 'fifteen [15] days' of receipt of the "Letter of Acceptance [LOA]" of the Tender by the successful Bidder/Contractor failure on the part of the successful Bidder/Contractor to sign the 'Agreement' within the above stipulated period, shall constitute sufficient grounds for appropriate action per tender provisions.

2.30.3 If the Bidder or any employee of the Bidder or any person acting on behalf of the Bidder, either directly or indirectly, is a relative of any of the employee of Prasara Bharati, or alternatively, if any relative of an employee of Prasara Bharati has financial interest/stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of filing of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

2.30.4 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of Prasara Bharati

2.31 EMPLOYMENT BY FIRMS TO OFFICIALS OF THIS ORGANISATION.

Firms/companies who have or had business relations with the Organisation are advised not to employ serving employees of this Organisation without its prior permission or within the initial one year period after the retirement/resignation/severance from the service without specific permission of this Organisation. This Organisation may decide not to deal with such firms who failed to comply with the above advice.

2.32 CANCELLATION /RESCISSION :

The Bidder shall be liable to pay compensation for any loss or damage to Prasara

Bharati resulting from any cancellation/rescission due to the reasons attributable to the Bidder and the Prasar Bharati shall be entitled to deduct the amount so payable from the amount due to the Bidder.

2.33 FOR THE BIDDER FROM A COUNTRY WHICH SHARES A LAND BORDER WITH INDIA

2.33.1 Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

2.33.2 "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

2.33.3 "Bidder from a country which shares a land border with India" for the purpose of this Order means; -

2.33.3.1 An entity incorporated, established or registered in such a country; or

2.33.3.2 A subsidiary of an entity incorporated, established or registered in such a country; or

2.33.3.3 An entity substantially controlled through entities incorporated, established or registered in such a country; or

2.33.3.4 An entity whose beneficial owner is situated in such a country; or

2.33.3.5 An Indian (or other) agent of such an entity; or

2.33.3.6 A natural person who is a citizen of such a country; or

2.33.3.7 A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

2.33.4 The beneficial owner for the purpose of Para 2.33.3 above will be as under:

2.33.4.1 In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means. Explanation—

2.33.4.1.1 "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

2.33.4.1.2 "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

2.33.4.1.3 In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

2.33.4.1.4 In case of an unincorporated association or body of individuals, the

beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

2.33.4.1.5 Where no natural person is identified under Para 2.33.4.1 above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

2.33.5 In case of a trusty the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

2.33.6 An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

2.33.7 The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.(In case of Tenders for Works contracts, including Turnkey contracts)

2.33.8 The following Certificate shall be submitted by the Bidder appending to the Technical Bid—

Certificate to be filled by the Bidder:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Certificate for Tenders for Works involving possibility of sub-contracting:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; / certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered, [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

ANNEXURE-1 (FORM-1)**BIDDER'S GENERAL INFORMATION**

To,
Prasar Bharati

TENDER NO: 14(1)2026-27EI(P)TV

1	Bidder Name:	
2	Number of Years in Operation	
3	Address of Registered Office	City: District: State: PIN/ZIP:
4A	Bidder's address where order/contract is to be placed	City: District: State: PIN/ZIP:
4B	Address from where Goods/ Services are to be dispatched/ provided along with GST no. <i>(In case supply of Goods/ Services are from multiple locations, addresses and GST no . Of all such locations are</i>	City: District: State: PIN/ZIP: GST No.:
	<i>to be provided).</i> (Indian Bidder only)	
5	Telephone Number of address where order is to be placed	(Country Code) (Area Code) (Telephone Number)
6	E-mail address	
7	Fax Number (if available)	(Country Code) (Area Code) (Telephone Number)
8	Website	

9	Name & Designation of Contact Person	
10	ISO Certification, if any {If yes, please furnish details}	
12	Banker's Name	
13	Branch	
14	Branch Code	
15	Bank Account Number	
16	PAN No	
17	Status of Firm	Proprietorship Firm/Partnership firm/Limited/Others If Others Specify: [Enclose relevant certificates / partnership deed/certificate of Registration, as applicable]
18	GST No. (refer sl. no. 4B above)	[Enclose copy of GST Certificate]
19	Whether Micro or Small Enterprise? (Indian Bidder only)	Yes / No <i>(If Yes, Bidder to submit requisite documents as specified in ITB)</i>
20	Type of Entity (Indian Bidder only)	Corporate/ Non-Corporate (As per CGST/SGST/UTGST Act). (In case of Non-Corporate Entity, bidder will submit documentary evidence for same).
21	Whether Bidder is Startups or not? (Indian Bidder only)	Yes / No
22	Whether Bidder is related to any employee of Prasar Bharati? (If, yes, then the list may also be enclosed as mentioned in Para 2.30.3)	Yes / No

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal

ANNEXURE-2 (FORM-2)
BID SUBMISSION FORM AND AGREEMENT

To,

Prasar Bharati

TENDER NO: 14(1)2026-27EI(P)TV

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

Dear Sir,

After examining / reviewing the Bidding Documents for the tender of

Including "Specifications & Scope of Work", "General Term Conditions [GTC]" and "Price Bid", etc. the receipt of which is hereby duly acknowledged, we, the undersigned, are pleased to offer to execute the whole part of the job and in conformity with the said Bid Documents, including Addenda / Corrigenda Nos. .

We confirm that this Bid is valid for a period as specified in BDS from the date of opening of "Techno-Commercial / Un-priced Bid", and it shall remain binding upon us and may be accepted by any time before the expiry of that period and any extension thereof.

If our Bid is accepted, we will provide the "Contract Performance Security / Security Deposit" equal to" <_____> of the Contract Price" or as mentioned in Tender Document for the due performance within "thirty [30] days" of such Award.

Until a final Agreement/Letter of Award is prepared and executed, the tender document (including addenda/ corrigenda) together with the "Notification of Award" shall constitute a binding Agreement between us.

We understand that Bidding Document is not exhaustive and any action and activity not mentioned in Bidding Documents but may be inferred to be included to meet the intend of the Bidding Documents shall be deemed to be mentioned in Bidding Documents unless otherwise specifically excluded and we confirm to perform for fulfillment of Agreement and completeness of the Work in all respects within the time frame and agreed price.

We understand that you are not bound to accept the lowest priced or any Bid that you may receive.

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

ANNEXURE-3 (FORM-3)

‘Declaration regarding MSME’:-

(To be submitted in Non-Judicial Stamp Paper value of Rs.100/- and to be uploaded in the Technical Bid.)

DECLARATION (For MSME Units only)

I, <_____> on behalf of M/s. <_____> in the capacity of <_____> (Position) hereby declare that

1. Our MSE Unit(s) is/are availing benefits extended by MSME, Government of India to Micro and Small Enterprises (MSEs) for the work of <_____> invited vide Bid Number <_____>
2. Our MSE Unit(s) has/ have not been awarded any work /supply under MSME benefit during the current financial year.

OR

Our MSE Unit(s) has/have been awarded work /supply for a total value of Rs. (Rupees <_____> only) under MSME benefits as on date and same work(s)/Supply is/are “In hand (Progress)/Incomplete” during the current financial year. Further, We confirm that the value of)/Supply is/are in hand (awarded under MSME benefits) during the financial year plus estimated cost of this tender has not crossed the “Monetary Limit” mentioned in NSIC certificate.

3. Our firm is participating in this tender under “MSE unit” or “OPEN BIDDER”.

NOTE: Strike out the conditions in (2) & (3) whichever is not applicable. Decision on any discrepancy in this “DECLARATION” shall be at the discretion of Prasar Bharati and shall be final and binding.

SIGNATURE WITH COMPANY SEAL

ATTESTED BY NOTARY PUBLIC

ANNEXURE-4A (FORM-4A)

(PROFORMA OF BANK GUARANTEE FOR BID BOND)

Bank Guarantee No. _____

Ref :

To
PRASAR BHARATI
(India's Public Service Broadcaster)
DIRECTORATE GENERAL: DOORDARSHAN
DOORDARSHAN BHAWAN, COPERNICUS MARG,
NEW DELHI – 110001

Dear Sirs,

Whereas the PRASAR BHARATI(India's Public Service Broadcaster),
DIRECTORATE GENERAL: DOORDARSHAN having its head office at DOORDARSHAN
BHAWAN, COPERNICUS MARG,NEW DELHI – 110001(hereinafter called the
Organisation) which expression shall, unless repugnant to the context or meaning thereof,
include all its successors, administrators, executors and assignees, has floated a Tender
No. _____ and M/s
_____ having Registered/ Head Office at
_____ (Hereinafter called the "Bidder" which expression
shall, unless repugnant to the context or meaning thereof, mean and include all its successors,
administrators executors and assignees) have submitted a quotation Reference No.
_____ and Bidder having agree to furnish as a conditions precedent for
participation in tender as unconditional and irrevocable bank guarantee of Rupees
_____ Only) for the due performance of Bidder/s
obligations as contained in the terms of the Notice inviting Tenders (NIT) and other terms and
conditions contained in the Tender Documents supplied by the Organisation specially the
conditions that (a) Bidder shall keep his tender open for a period of day, i.e., from
_____ to _____ or any extension thereof, and shall not withdraw or
modify it in a manner not acceptable to the Organisation(b) the Bidder will execute the
contract, if awarded, and shall furnish performance guarantee in the format prescribed by the
Organisation within the required time. The Bidder has absolutely and unconditionally accepted
these conditions. The Organisation and the Bidder have agreed that NIT/tender document is an
offer made on the condition that the tender, if submitted would be kept open in its original
form without variation or modification in a manner not acceptable to the Organisation for a
period of _____ days, i.e., from _____ to _____ or any extension thereof and that
making of the tender itself shall be regarded as an unconditional and absolute acceptance of
the conditions, contained in NIT and the tender documents. They have further agreed that the
contract consisting of NIT/Tender documents as the OFFER and submission of the tender as
the ACCEPTANCE shall be a separate contract distinct from the contract which will come
into existence when the tender is finally accepted by the Organisation. The consideration for
this separate initial contract preceding the main contract is that the Organisation is not
agreeable to sell the NIT/tender documents to the Bidder and

to consider the tender to be made except on the condition that the tender shall be kept open for
the period indicated above and the Bidder desires to make a tender on this condition after
entering into this separate initial contract with the Organisation promises to consider the tender
on this condition and Bidder agrees to keep this tender open for the required period. These

reciprocal promises form the CONSIDERATION for this separate initial contract between the parties.

2. Therefore, _____ we
_____ registered _____ (indicate the name
of Bank) under the laws of _____ having
head/registered office at _____ (hereinafter) referred to as the
"Bank" which expression shall, unless repugnant to the context or meaning thereof, include all
its successors, administrators and executors hereby issue irrevocable and unconditional bank
guarantee and undertake to pay immediately on first demand in writing Rupees
_____ at any time immediately on such demand without any demur,
reservations, recourse, contest or protest and/ or without any reference to the Bidder and any
such demand made by the Organisation on the bank shall be conclusive and binding
notwithstanding any difference between organisation and the Bidder or any dispute pending
before any court arbitrator or any other matter whatsoever. We also agree to give that
Guarantee herein the Organisation in writing. This guarantee shall not be
determined/discharged/affected by the liquidation, winding up, dissolution or insolvency of
the Bidder and will remain valid, binding and operative against the bank.

3. The bank also undertakes that the Organisation at the option shall be entitled to enforce this
guarantee, against the Bank as a principal debtor, in the first instance, without proceeding
against the Bidder.

4. The bank further agree that as between the bank and the Organisation, for purpose of the
guarantee, any notice of the breach of the conditions contained in NIT and other terms and
conditions contained in the Tender Documents as referred above given to the bank by the
Organisation shall be conclusive and binding on Bank, without any proof, notwithstanding any
other matter or difference or dispute whatsoever. We further agree that this guarantee shall not
be affected by any change in our constitution, in the constitution of the Organisation or that of
the Bidder. We also undertake not to revoke, in any case, this Guarantee during its currency.

5. The bank agrees with the Organisation that the Organisation shall have the fullest liberty
without our consent and without affecting in any manner our obligations hereunder to vary any
of the terms of the tender or get extension of the validity period from time to time. We shall
not be relieved from our liability by reason of any such variation or extension of the validity
period or for any forbearance, act of omission and commission on the part of the Organisation
or any indulgence shown by the Organisation to the said Bidder or by any such matter or thing
whatsoever which under the law relating to sureties, would, but for this provision, have the
effect of so relieving us.

6. Notwithstanding anything contained herein above our liability under this Guarantee is
limited to Rupees (_____ only) in aggregate and it shall remain in
full force upto and including 45 days after _____ unless
extended further (indicate the last date of validity period) from time to time, for such period as
may be instructed in writing by M/s _____ on
whose behalf this guarantee has been given, in which case, it shall remain in full force upto
and including 45 days after the expiry of extended period. Any claim under this guarantee
must be received by us before the expiry of 45 days from
_____ or (indicate the last date of validity period)
before the expiry of 45 days after the expiry of extended period, if any, if no such claim has
been received by us within 45 days after the said date/extended date, the rights of the
Organisation under this guarantee will cease subject to Para 8. However, if such a claim has
been received by us within and upon forty five days after the said date/extended date, all rights
of the organisation under this guarantee shall be valid and shall not cease until we have
satisfied that claim.

7. In case contract is awarded to the Bidder here in after referred to as "Contractor" the validity of this Bank Guarantee will stand automatically extended until the contractor furnished to the Organisation a bank guarantee for Rs. _____ (in figure) (Rupees _____ only) (in words) towards performance guarantee for satisfactory performance of the contract. In case of failure to furnish performance bank Guarantee in the format prescribed by this Organisation by the required date the claim must be submitted to us within 120 days after the last date of validity period or extended period, if any. If no such claim has been received by us within 120 days after the said date/extended date, rights of the organisation under this guarantee will cease. However if such a claim has been received by us within and up to 120 days after the said date/extended date all rights of the Organisation under this guarantee will cease. However, if such a claim has been received by us within and upto 120 days after the said date/extended date, all rights of the Organisation under this guarantee shall be valid and shall not cease until we have satisfied that claim.

8. The Bank confirms that this guarantee has been issued with the approval of appropriate Exchange Control Authority in _____ and any other authority (indicate the name of the country of issue of Guarantee) if required as per the laws of the country of issue of guarantee.

The bank confirms that this guarantee has been issued with observance of the appropriate Exchange Control rules and Regulations of the country.

In witness whereof the Bank, through its authorised officer, has set its hand & stamp on this _____ day of _____ at _____ of _____ (month & year)

Signature

(Full name in capital letters)

(Designation with bank stamp)

Date.....

Witness No. 1

Signature

Full name and Address (in capital letters).....

.....
.....

Witness No. 2

Signature

Full name and Address (in capital letters).....

.....
.....

INSTRUCTIONS

(FOR FILLING UP BANK GUARANTEE FOR BID BOND)

1. The bank guarantee should be stamped in accordance with the Stamp Act.
2. The non-judicial stamp paper should be in the name of the issuing bank.
3. Clause 7 of the bank guarantee is applicable in cases of global tenders where foreign tenders also participate. When tenders are invited from parties within India, clause 7 may be deleted and replaced by clause. “The bank also agrees that courts of the place from where tenders have been invited shall have exclusive jurisdiction”.
4. Please indicate the currency in which bank guarantee is being given Rs/-(Rupees) have been mentioned only for illustrations. Therefore, in cases where bank guarantee is being given in a currency other than Rupees' or US Dollars' these terms may be deleted and replaced by relevant currency.
5. The period of forty five (45) days mentioned in clause 6 and one hundred twenty (120) days as given in clause 6 should be available after the expiry of the validity period of the tender or any extension thereof.
6. The bank guarantee by Indian bidder will be given from an Indian scheduled commercial bank only. The foreign bidders will give Bank Guarantee from an Indian scheduled commercial bank situated in that country. In case no Indian Bank is situated in bidder's country then Bank Guarantee from a foreign bank acceptable to the Organisation will be considered, provided it is confirmed by an Indian scheduled commercial bank and shall be governed by the Indian laws and subject to the jurisdiction of the courts in New Delhi.

ANNEXURE-4B (FORM-4B)

PROFORMA OF INSURANCE SECURITY BOND FOR BID BOND

Surety Bond No. _____

Reference: _____

Dated: _____

To
PRASAR BHARATI
(India's Public Service Broadcaster)
DG: Doordarshan,
Doordarshan Bhawan, Copernicus Marg, NEW DELHI

[Address of the Procuring Authority]

Whereas _____, having its head office at _____ (hereinafter called "the Organisation", which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors, and assignees) has floated Tender No. _____ and _____ M/s _____, having its registered/head office at _____ (hereinafter called "the Bidder", which expression shall unless repugnant to the context or meaning thereof include all its successors, administrators, executors, and assignees), have submitted their bid in response thereto.

And whereas the Bidder has agreed, as a condition precedent for participation in the said tender, to furnish an **unconditional and irrevocable insurance surety bond** of Rs.

_____ (Rupees _____ Only), for the due performance of the Bidder's obligations under the conditions of the Notice Inviting Tender (NIT) and other terms and conditions contained in the tender documents.

We, the undersigned, **[Name of the Insurance Company]**, a company incorporated under the laws of India and having its registered office at _____ (hereinafter referred to as "the Surety", which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, and assignees), hereby issue this Surety Bond on behalf of the Bidder and irrevocably undertake to pay the Organisation, on first written demand and without any demur or reference to the Bidder, an amount not exceeding Rs. _____ (Rupees _____ Only).

1. This Surety Bond guarantees the following obligations:

- That the Bidder shall keep their bid open and valid for a period of ____ days i.e., from _____ to _____ or any extension thereof, and shall not withdraw or modify the

bid in a manner not acceptable to the Organisation.

- That the Bidder, if awarded the contract, shall execute the agreement and furnish the required performance security within the stipulated timeframe in the form prescribed by the Organisation.

2. We, as Surety, hereby irrevocably undertake to pay the Organisation on first demand without protest or demur, and without reference to the Bidder, the said amount of Rs.

_____ (Rupees _____ Only), or part thereof, as may be demanded by the Organisation, in the event of:

- Withdrawal or modification of the bid in violation of the tender conditions,
- Failure of the Bidder to sign the contract or furnish performance security within the stipulated period.

3. The Surety hereby waives all rights of objection or defence under any applicable laws relating to sureties. The Organisation's written declaration as to any default on the part of the Bidder shall be binding and conclusive on the Surety.

4. The Surety acknowledges and agrees that its obligations under this bond are independent of the obligations of the Bidder and may be enforced without requiring the Organisation to first proceed against the Bidder.

5. This Surety Bond shall be irrevocable and shall remain valid for a period of 45 days beyond the bid validity period i.e., up to _____ (indicate date), unless extended further in writing by the Organisation.

Any claim under this bond must be received by us on or before 45 days after expiry of the bond validity, i.e., up to _____. If no such claim is received within this period, the Surety's obligations under this bond shall automatically cease.

6. This Surety Bond shall be governed by and construed in accordance with the laws of India and shall be subject to the exclusive jurisdiction of courts located in New Delhi (mention place of Tendering Authority).

7. This bond shall remain unaffected by any change in the constitution of the Organisation, the Bidder, or the Surety. The obligations of the Surety shall not be impaired or discharged by any indulgence or concession granted by the Organisation to the Bidder. In witness whereof, the Surety has executed this Surety Bond through its authorized signatory under proper authority on this _____ day of _____, _____ at _____.

8. All Claims against this **Insurance Surety Bond**, shall be remitted by the(Insurer's name to be inserted) to the following account of Prasar Bharati only through electronic transfer of funds, unless otherwise specifically communicated by Prasar Bharati :

- 1) Beneficiary Account Name:
- 2) Bank Name
- 3) Bank Account Number:
- 4) IFSC Code:

For and on behalf of

[Insurance Company Name]
(Seal of the Company)

Signature: _____

Name (in Block Letters): _____ Designation: _____ Date: _

Witness No. 1

Signature: _____ Name: _____ Address: _____

Witness No. 2

Signature: _____ Name: _____ Address: _____

Note:

- Ensure the Surety Bond is executed on a valid insurance policy bond paper/stamp paper as per applicable Stamp Act.
- The Insurance Company must be registered with IRDAI and authorized to issue bid security/contract surety insurance as per the latest government guidelines.

ANNEXURE-5 (FORM-5)				
Check List				
Tender no.		14(1)2026-27EI(P)TV		
Tech. Specification no		SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026		
Specification for		SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi		
(COMMERCIAL)				
Group A				
Name of Bidder and Address				
GSTIN of Firm				
S.No	Description			YES / NO / NOT APPLICABLE
1.1	Whether requisite tender Processing fee has been paid?			
2.1	Whether NEFT/RTGS/FDR/DD Bank Guarantee for the requisite earnest money/Bid Bond enclosed with the offer?			
2.2	If so, furnish the following			
	I	Name of the Bank		
	II	Value		
	III	Number		
	IV	Date of issue		
	V	Period of validity of the DD/FDR/ Bank Guarantee (it should not be for less than 165 days(90 days in case of DD) from the date of opening of Technical Bid)		
3	Have the rates, prices and totals etc. been checked thoroughly before signing the tender?			
4	Has a statement incorporating the Nil-deviation from the commercial terms and conditions of this Organisation has been prepared and enclosed with the offer?			
5	Whether charges for training of this Organisation's officials included in the prices? If not, whether these have been quoted separately?			
6	Whether firm FOR Destination prices have been quoted?			
8	Whether the cost of installation/erection/commissioning at site is included in the prices or not and whether it has been quoted separately?			
9	Whether the period of validity of the offer is as required in the tender document. If not, mention the extent of variation in days.			

10	Whether the offer has been signed indicating full name?		
11	Are the pages of the tender consecutively numbered and an indication given on the front page of the tender as to how many pages are contained in the tender?		
12	Has the tender been prepared in sufficient details/clarity so as to avoid post tender clarifications/amendments?		
13	Whether required sample asked in tender has been submitted along with the offer		
14	Whether all Clauses of the tender are accepted?		
15	If not, the clauses not accepted may please be indicated		
16	Whether guarantee/warranty has been furnished?		
17	Whether Commercial bid and technical bid of the tender document duly filled in and submitted.		
18	Whether each Page of Appendix- A, B, C, D, E, F and G of the tender document is signed and submitted with the offer.		
19	Whether Integrity Pact duly signed is submitted, if estimated cost of the bid is more than 2 Crore.		
Group B			
1	Whether a copy of the latest income tax return has been enclosed?		
2	Whether details of your registration under GST have been indicated in the offer?		
Group C			
(Technical)			
1	Whether necessary literature/catalog of the full complement of equipment offered as well as operation service and maintenance manual thereof has been attached with the offer?		
2	Whether the material being offered fully conforms to all the required technical specifications (Appendix-D)?		
3	If not, has the extent of deviation and how it is suitable to this Organisation's requirement been specified.		
5	Whether the model of each equipment offered are the latest?		
6	Whether the spares support will be available for a period of 5 years from the date of supply?		
7	Do you have an after-sales service centre in India?		
	If no, which is the nearest service centre (Address).		
8	Whether complete details of after-sales service arrangements given including training for the officials of this organisation?		

ANNEXURE-6 (FORM-6)

(Technical Bid)

Tender no. : 14(1)2026-27EI(P)TV

Subject: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

NIT Enquiry No: NIT-05/2026-27

NIL DEVIATION CERTIFICATE

Notwithstanding anything mentioned in our bid, we hereby accept all the terms and conditions of this Tender Document without any reservations whatsoever. We hereby undertake and confirm that we have understood all the specifications, stipulations, terms and conditions as mentioned in this Tender enquiry.

I hereby declare that – There is no deviation in the offer.

Signature of Authorized Signatory of Bidder

Name:

Designation:

Date:

Place:

Seal of Organization:

ANNEXURE-7 (FORM-7)					
	BIDDERS PAST SUPPLIES PROFORMA				
Sl . N o.	Name & address of client	Period from	Description in detail	Total quantity supplied	Remarks

ANNEXURE-8 (FORM-8)

DECLARATION REGARDING HOLIDAY/BANNING AND LIQUIDATION, COURT RECEIVERSHIP

To,
Prasar Bharati

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

TENDER NO: 14(1)2026-27EI(P)TV

Dear Sir,

We hereby confirm that we are not on 'Holiday' by any offices of Prasar Bharati/ AIR/ DD/ CCW/ Government or Public Sector (due to "poor performance" or "corrupt and fraudulent practices") or banned by Government department/ Public Sector on due date of submission of bid.

Further, we confirm that neither we nor our allied agency/(ies) (as defined in the Procedure for Action in case of Corrupt/ Fraudulent/ Collusive/ Coercive Practices) are on banning list of Government or Public Sector.

We also confirm that we are not under any liquidation, court receivership or similar proceedings or 'bankruptcy'.

In case it comes to the notice of Prasar Bharati that the bidder has given wrong declaration in this regard, the same shall be dealt as 'fraudulent practices' and action shall be initiated as per the Procedure for action in case of Corrupt/Fraudulent/Collusive/Coercive Practices.

Further, we also confirm that in case there is any change in status of the declaration prior to award of contract, the same will be promptly informed to Prasar Bharati by us.

Place:	[Signature of Authorized Signatory of Bidder]
Date:	Name:
	Designation:
	Seal:

ANNEXURE-9 (FORM-9)

LETTER OF AUTHORITY

[Proforma for Letter of Authority for Attending Pre-Bid Meetings' /'Un-priced Bid Opening' / 'Price Bid Opening'/Subsequent 'Negotiations']

Ref:

Date:

To,
Prasar Bharati

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

TENDER NO: 14(1)2026-27EI(P)TV

Dear Sir,

I/We, <_____>hereby authorize the following representative(s) for attending any 'Meetings [Pre-Bid Meeting]', 'Un- priced Bid Opening', 'Price Bid Opening' and for any subsequent 'Negotiations' correspondence / communication against the above Bidding Documents:

[1] Name & Designation

Signature

[2] Phone/Cell:

Fax:

E-mail: @

[3] Name & Designation

Signature

[4] Phone/Cell:

Fax:

E-mail: @

We confirm that we shall be bound by all commitments made by aforementioned authorised representative(s).

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

Note: This "Letter of Authority" should be on the "letterhead" of the Firm / Bidder and should be signed by a person competent and having the 'Power of Attorney' to bind the Bidder. Not more than 'two [02] persons per Bidder' are permitted to attend "Techno-commercial / Un-priced" & "Price Bid" Openings. Bidders authorized representative is required to carry a copy of this authority letter while attending the un-priced and priced bid opening, the same shall be submitted to PRASAR BHARATI.

ANNEXURE-10 (FORM-10)

E-Banking Mandate Form

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

TENDER NO: 14(1)2026-27EI(P)TV

(To be issued on Bidder letter head)

1. Bidder/customer Name:
2. Bidder /customer Address:
3. Bidders' e-mail id:
4. Particulars of bank account
 - a) Name of Bank
 - b) Name of branch
 - c) Branch code:
 - d) Address:
 - e) Telephone number:
 - f) Type of account (current/saving etc.)
 - g) Account Number:
 - h) IFSC of the bank branch
 - i) 9 digit MICR code

I/We hereby authorize Prasar Bharati to release any amount due to me/us in the bank account as mentioned above. I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or lost because of incomplete or incorrect information, we would not hold Prasar Bharati responsible.

(Signature of Bidder/)

ANNEXURE-11 (FORM-11)

Self-Certificate for Local Content

*We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is equal to or more than 50% and come under 'Class-I Local Supplier' Category. As being 'Class-I Local Supplier', we are eligible for Purchase Preference under 'Make in India' Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019, 04.06.2020 and 16.09.2020, or latest order, if any, will be applicable).

OR

*We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is more than 20% but less than 50% and come under 'Class-II Local Supplier' Category.

OR

*We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is below 20%, equal to _____% and come under 'Non- Local Supplier' Category.

The details of the location(s) at which the local value addition made is/are as under:

1.....

2.....

3.....

*** Strike out whichever is not applicable**

Please provide the exact percentage of local value addition for entire 'Bill of Material'.

*Certificate as per Clause 9b of DPIIT order No. P-45021/2/2017-PP (BE-II) dated 16/09/2020 i.e. in cases of procurement for a value **in excess of Rs. 10 crores**, the 'Class-I Local Supplier'/'Class-II Local Supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

*The certificate from OEMs/Manufacturers for their percentage of local content/local value addition.

Date:

Seal & Signature of the Bidder

*[To be executed on plain paper and submitted along with bid/tender document for Bidders **having a value of Rupees two crores or more**]*

*To be signed by the Authorized Signatories of the Bidders
and Prasar Bharati*

INTEGRITY PACT

This pre-bid pre-contract Agreement, hereinafter called the INTEGRITY PACT,
is made on this

_____ day of the month of _____, 20____. BETWEEN
CEO Prasar Bharati (Broadcasting Corporation of India), Prasar Bharati House,
Copernicus Marg, New Delhi 110001 acting through Deputy Director General
(Purchase) >Address: <DG: DD> hereinafter called the “Buyer”, which
expression shall mean and include, unless the context otherwise requires, his
successors in office and assigns, on the one hand,

AND

M/s<_____>, at
address<_____>
_____>acting through Sh.<_____>
_____, Chief Executive Officer, hereinafter called the “BIDDER”,
which expression shall mean and include, unless the context otherwise requires,
his successors in office and assigns, on the other.

PREAMBLE

WHEREAS the BUYER proposes to procure (Supply, Installation, Testing and
Commissioning of <_____>), hereinafter
referred as “<SITC of _____>” and has floated a tender [Tender
No.<_____>], hereinafter referred to as the
“TENDER”, and the BIDDER/ SELLER is willing to offer/ has offered the
<(Name of the Work/Supply:><_____> and the BUYER
intends to award a contract / purchase order / work order for the <SITC
of _____> covered under the TENDER hereinafter referred to the
“CONTRACT”,

AND WHEREAS the BIDDER/ SELLER is a company incorporated in India
under Companies Act, 1956/2013 or a Partnership registered under Indian
Partnership Act, 1932 or a Limited Liability Partnership (LLP) in India **or**
Government undertaking or a Government Autonomous body and the BUYER is
an Autonomous Organisation of the Government of India performing its
functions on behalf of the President of India.

AND WHEREAS the BUYER has appointed Independent External Monitors
(IEMs) to monitor

The TENDER process and the execution of the CONTRACT for compliance with
the principles as laid down in this INTEGRITYPACT.

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this INTEGRITY PACT, the terms and conditions of which shall also be read as integral part of the TENDER document and CONTRACT between the parties.

NOW, THEREFORE,

To avoid all forms of corruption by following a system i.e. fair, transparent and free from any influence / prejudiced dealing prior to, during and subsequent to the currency of the CONTRACT to be entered into with a view to:-

Enable the BUYER to obtain the <SITC of _____> at a competitive price in conformity with the defined specifications by avoiding the high cost and distortion any impact of corruption on public procurement,

And

Enable the BIDDER/ SELLER to abstain from bribing or indulging in any corrupt practices in order to secure the CONTRACT by providing assurance to the BUYER that their competitors will also abstain from bribing and other corrupt practices,

And

Enable the BUYER to prevent corruption in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this INTEGRITY PACT and agree as follows:

1. Article 1 – COMMITMENTS OF THE BUYER

- 1.1 The BUYER undertakes that no official of BUYER, connected directly or indirectly with the CONTRACT/ TENDER or the BUYER personally or any of his family members will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the BIDDER/ SELLER, either for themselves or for any person, organization or third party related to the CONTRACT in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the CONTRACT.
- 1.2 BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER/ SELLER, which could afford an advantage to that particular BIDDER in comparison to the other BIDDERS.
- 1.3 The officials of the BUYER will report to the Independent External Monitor (IEM) with a copy to the Chief Vigilance Officer (CVO) any attempted or completed breaches of the above commitments as well as any substantial

suspicion of such a breach.

- 1.4 In case any such misconduct on the part of such official(s) of the BUYER is reported by the BIDDER to the BUYER with the full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the CONTRACT process. In such a case, while an enquiry is being conducted by the BUYER, the proceedings under the CONTRACT would not be stalled, unless considered necessary.

2 Article 2 - COMMITMENTS OF THE BIDDER

- 2.1 The BIDDER commits himself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of the bidding or during any pre- contract or post-contract stage in order to secure the CONTRACT or in furtherance to secure it and in particular commits himself to the following:-
 - 2.1.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official or family member of the BUYER, connected directly or indirectly with the Bidding Process, or to any person, organization or third party related to the CONTRACT in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
 - 2.1.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage, or inducement to any official of the BUYER or family member of the BUYER or otherwise in procuring the CONTRACT or forbearing to do or having done any act in relation to the obtaining or execution of the CONTRACT or any other CONTRACT with the Prasar Bharati for showing or forbearing to show favor or disfavor to any person in relation to the CONTRACT or any other CONTRACT with Prasar Bharati.
 - 2.1.3 BIDDER shall disclose the name and address of his agents and representatives and the Indian BIDDERS shall disclose his foreign principals or associates, if any.
 - 2.1.4 BIDDER shall disclose the payments to be made by them to agents/ brokers or any other intermediaries, in connection with this TENDER/CONTRACT.
 - 2.1.5 The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/ authorised partner of the <SITC of _____> and has not engaged any individual or firm or company whether Indian or foreign other than those Para 2.1.3 and Para 2.1.4 above, to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the CONTRACT to the BIDDER.
 - 2.1.6 The BIDDER will not collude with other parties interested in the CONTRACT to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the

CONTRACT.

- 2.1.7 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 2.1.8 The BIDDER shall not use impropriety, for purpose of competition or personal gain, or pass on to others, any information provided by BUYER as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 2.1.9 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.1.10 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above in the sub clause of this Article2.
- 2.1.11 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an official of the BUYER has financial interest/stake in the BIDDER"s firm, the same shall be disclosed by the BIDDER at the time of filling of tender.
- 2.1.12 The term, relative "for this purpose would be as defined in Section 2(77) of the Companies Act, 2013.
- 2.1.13 The BIDDER shall not lend or borrow any money or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

3

Article 3 - PREVIOUS TRANSGRESSION, IF ANY, OF THE BIDDER

- 3.1 The BIDDER declares that no previous transgression has occurred in the last three years immediately before signing of this INTEGRITY PACT with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER"s exclusion from the TENDER process.
- 3.2 The BIDDER agrees that if it makes incorrect statement on this subject, he can be disqualified from the TENDER process or the CONTRACT, if already awarded, can be terminated for such reason.
- 3.3 If the BIDDER can prove that he has resorted/ recouped the damage caused by him and has installed suitable corruption prevention system, the BUYER may, at his own discretion, as per laid down organisational procedures, revoke the exclusion prematurely.

4

Article 4 - SANCTIONS FOR VIOLATIONS

- 4.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:-

- 4.1.1 To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(S) would continue.
- 4.1.2 The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/ Performance Bond (after the CONTRACT is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason there for.
- 4.1.3 To immediately cancel the CONTRACT, if already signed, without giving any compensation to the BIDDER.
- 4.1.4 To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with Interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other CONTRACT for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- 4.1.5 To encash the advance bank guarantee and performance bond/ warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- 4.1.6 To cancel all or any other contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/ rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- 4.1.7 Registration of suppliers and their eligibility to participate in Procurement Entity's procurements is subject to compliance with Code of Integrity for Public Procurement and good performance in contracts.
- i. A bidder shall be debarred if he has been convicted of an offence.
 - a. Under the prevention of Corruption Act. 1988; or
 - b. Under the Indian Penal Code or any other law for the time being in force, for causing a threat to public health as part of execution of a public procurement contract.
 - ii. A bidder debarred under sub-section (i) or any successor of the bidder shall not be eligible to participate in a procurement process of any procuring entity of Prasar Bharati for a period not exceeding three years commencing from the date of debarment.
 - iii. Buyer may debar a bidder or any of its successor, from participating in any procurement process undertaken by it, or period not exceeding two years, if it determines that the bidder has breached the code of integrity.
 - iv. Prasar Bharati will maintain such list of debarred suppliers which will also be displayed on its website.
 - v. The bidder shall not be debarred unless such bidder has been given a reasonable opportunity to represent against such debarment.
- 4.1.8 To recover all sums paid in violation of this INTEGRITY PACT by the BIDDER to any middlemen or agent or broker with a view to securing the CONTRACT.

- 4.1.9 In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- 4.1.10 The BUYER will be entitled to take all or any of the actions mentioned at Paras 4.1.1 to 4.1.9 of this INTEGRITY PACT also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 4.1.11 The decision of BUYER to the effect that a breach of the provisions of this INTEGRITY PACT has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the IEM(s) appointed for the purposes of this INTEGRITY PACT

5 Article 5 - INDEPENDENT MONITORS

- 5.1 THE BUYER has appointed an Independent External Monitor (hereinafter referred to as "MONITOR") for this INTEGRITY PACT in consultation with the Central Vigilance Commission (Addresses and Contact details of the Monitor is:

Shri Alope Prasad, IPS (Retd.) E-mail: alokewa@gmail.com	Sh. Rakesh Kumar Verma, Email: rakeshkumarverma@hotmail.com
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- 5.2 The task of the MONITOR shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 5.3 The MONITOR shall not be subject to instructions by the representatives of the parties and shall perform his functions neutrally and independently. He will report his findings to Chief Executive Officer, Prasar Bharati (CEO, PB).
- 5.4 Both the Parties accept that the MONITOR has the right to access, without restriction, all the documents relating to the Project/ procurement, including minutes of meetings.
- 5.5 The BIDDER accepts that the MONITOR has the right to access, without restriction, all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the MONITOR, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project documentation. The same is applicable to Subcontractors of the BIDDER. The MONITOR shall be under contractual obligation to treat the information and documents of the BIDDER and his Subcontractor(s) with confidentiality.
- 5.6 The BUYER will provide to the MONITOR sufficient information about all meetings among the parties related to the Project/ procurement provided such meetings could have an impact on the contractual relations between the Parties. The Parties will offer to the MONITOR the option to participate in such meetings.

- 5.7 As soon as the MONITOR notices, or believe to notice, a violation of this INTEGRITY PACT, he will so inform the Authority designated by the BUYER with a copy to CVO, PB and request them to discontinue or take corrective action, or to take other relevant action. He will also inform separately to CEO, PB with copy to CVO, PB. The MONITOR can in this regard submit non-binding recommendations. Beyond this, the MONITOR has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 5.8 The MONITOR will submit a written report to the CVO, PB within 4 to 8 weeks from the date of reference or intimation to him by the BUYER or BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.
- 5.9 If the MONITOR has reported to the CEO, PB and CVO, PB a substantial suspicion of an offence under the relevant IPC/PC Act and they have not, within reasonable time taken visible action to proceed against such offence, the MONITOR may also transmit the information directly to the Central Vigilance Commissioner

6 Article 6 - FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of this INTEGRITY PACT or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

7 Article 7 - LAW AND PLACE OF JURISDICTION

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

8 Article 8 - OTHER LEGAL PROVISIONS/ ACTIONS

- 8.1 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extent law in force relating to any civil or criminal proceedings.
- 8.2 Any dispute or difference arising between the parties with regard to the terms of this INTEGRITY PACT and / or, any action taken by the BUYER in accordance with this INTEGRITY PACT or interpretation thereof shall not be subject to arbitration.
- 8.3 Both the parties agree that this INTEGRITY PACT has precedence over the TENDER/ CONTRACT documents with regard to any of the provisions covered under this INTEGRITYPACT.

9 Article 9 – VALIDITY

- 9.1 The validity of this INTEGRITY PACT shall be w.e.f. the date of its signing and shall extend up to 5(five) years or during the complete execution of the CONTRACT to the satisfaction of both the BUYER and the BIDDER, including warranty period, whichever is later. For unsuccessful BIDDERS at the tendering / pre-contract stage, this INTEGRITY PACT shall expire after six

(06) months from the date of signing of the CONTRACT.

- 9.2 Should one or several provisions of this INTEGRITY PACT turn out to be invalid; the remainder of this Integrity Pact shall remain valid. In this case, the Parties will strive to come to an agreement to their original intentions.
- 9.3 If any claim is made/ lodged during the validity period of the INTEGRITY PACT, the same shall be binding and continue to be valid despite the lapse of INTEGRITY PACT as specified above.
- 9.4 The parties hereby sign this INTEGRITY PACT at _____ on _____.

(For & On behalf of the Prasar Bharati)

(For & On behalf of BIDDER)

(Office Seal)

(Office Seal)

Place:.....

Date:.....

Witness 1:

(Name & Address)

Witness 2:

(Name & Address)

ANNEXURE-12B (FORM-12B)

*[To be executed on plain paper and submitted along with bid/tender document for Bidders having a value of **less than Rupees two crores**]*

To be signed by the Authorized Signatories of the Bidders

Undertaking

If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of an official of the BUYER. Alternatively, if any relative of an official of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender.

Place:
Date:

[Signature of Authorized Signatory of Bidder]
Name:
Designation:
Company Seal:

ANNEXURE-13 (FORM-13)**BIDDER'S QUERIES FOR PRE BID MEETING**

SUB: SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.

TENDER NO: 14(1)2026-27EI(P)TV

SL. NO.	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	For the Use of Office.
	SEC. NO.	Page No.	Clause No.	Subject		

NOTE: The Pre-Bid Queries may be sent by e-mail before due date for receipt of Bidder's queries.

The Address / Email / to Send Email Queries: Assistant Director (E) Room No.403
DIRECTORATE GENERAL: DOORDARSHAN DOORDARSHAN BHAWAN, COPERNICUS
MARG, NEW DELHI- 110001 (INDIA) TELEPHONE 011-23114403/23114401

E-Mail: ddpurchase401@yahoo.co.in

SIGNATURE OF BIDDER:

NAME OF BIDDER :

ANNEXURE-14A (FORM-14A)

(PROFORMA FOR BANK GUARANTEE FOR PERFORMANCE SECURITY)

(To be stamped in Accordance with Indian stamp Act)

The Non-judicial stamp paper should be in the name of issuing Bank

RefBank Guarantee No.

To

PRASAR BHARATI

(India's Public Service Broadcaster),

DG: DOORDARSHAN, DOORDARSHAN BHAWAN,

Copernicus Marg, NEW DELHI

Dear Sirs,

- 1 In consideration of PRASAR BHARATI ((India's Public Service Broadcaster), DG:DOORDARSHAN having its head office at India (herewith referred to as the Organisation which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and assignees and having entered into a contract dated (hereinafter called "the contract" which expression shall include all the amendments thereto) on behalf of the PRASAR BHARATI with M/s_____ having its Head/ Registered office at _____ (hereinafter referred to the contractor which expression unless repugnant to the context having been executors and assigns) and the contract having been unequivocally been accepted by the contractor resulting in a contract bearing No._____ dated_____ valued at Rs._____ (Rupees_____) (in words) for having agreed that the contractor shall furnish to the organisation Performance Guarantee for the faithful performance of the entire contract to the extent of **4 (four)%** of the of the value of the contract Rupees_____ (in words). We_____ (Name of the Bank) having its registered unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and assignees do hereby guarantee and undertake to pay immediately on first demand in writing, in Rupees as acceptable to the Organisation any and all moneys the extent of Rupees_____(In words). In aggregate at any time without any demur, reservations, recourse, contest or protests and /or without any reference to the contractor. Any such demands made by the Organisation on the Bank shall be conclusive and binding notwithstanding any difference between the Organisation and contractor or any dispute pending before any court Arbitrator or any other authority. We agree that guarantee herein contained shall be irrevocable and shall continue to be enforceable till it is discharged by the Organisation in writing.
- 2 The Organisation shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to extend the time for performance of the contract by the contractor or vary the terms of the contract. The Organisation shall have the fullest liberty without affecting this guarantee to postpone from time to time the exercise of power vested in them or of any right which they might at anytime in any manner, and either to enforce, or to forebear to enforce, any covenants contained or implied in the contract between the Organisation and the contractor or any other course or remedy or security available to the Organisation. The Bank shall not be released of its obligations under these

presents by any exercise by the Organisation of its liberty with reference to matter aforesaid or any of them or by reason of any other act of forbearance or other acts of omission or commission on the part of the Organisation or any other indulgence shown by the Organisation or by any other matter or thing whatsoever, which under law would, but for this provision, have the effect of relieving the Bank.

- 3 The Bank also agrees that the Organisation at its option, shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the contractor and notwithstanding any security or other guarantee that the Organisation may have in relation to the contractors liabilities.
- 4 The Bank further agrees that the Guarantee herein contained shall remain in full force during the period that is taken for the performance of the contract i.e. complete delivery of the material/equipment as the same is a condition of supply contract and all the dues of the Organisation under or by virtue of this contract, have been fully paid and its claim satisfied or discharged or till the Organisation discharge this guarantee in writing.
- 5 We further agree that as between us and the Organisation for the purpose of this guarantee any notice given to us by the Organisation that the money is payable by the contractor and any amount claimed in such notice by the Organisation shall be conclusive and binding on us notwithstanding any difference between the Organisation and the contractor or any dispute pending before any court, Tribunal, Arbitrator or any other authority. We further agree that this Guarantee shall not be affected/discharged by any change in our constitution, in the constitutions of the Organisation that of the contractor. We also undertake not to revoke this guarantee during its currency. This guarantee shall not be determined discharged or affected by the liquidation, winding up, dissolution or insolvency of the contractor and shall remain valid, binding and operative against the Bank.
6. Notwithstanding anything contained herein above, our liability under this guarantee is limited to Rs. _____ (In figure)(Rupees _____) (In words) in aggregate and it shall remain in full force up to and including 60 days after (Indicate the date of expiry of Guarantee/Warranty period) unless extended further, from time to time, for such period as may be instructed in writing by M/s _____ on whose behalf this guarantee has been given, in which case it shall remain in full force up to the expiry of the extended period. Any claim under this guarantee must be received by us before the expiry of one year from _____ (indicate the date of expiry of Guarantee/warranty period) or before the expiry of one year after the expiry of extended period, if any. If no such claim has been received by us within one year after the said date/extended date, the right of the Organisation under this guarantee will cease, However, if such a claim has been received by us within and up to one year after the said date/extended date, all the rights of the Organisation under this Guarantee shall be valid and shall not cease until we have satisfied that claim.
7. The bank confirms that this guarantee has been issued with the approval of the appropriate Exchange Control, Rules and regulations of the country.

We also agree that this guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian courts.

The bank also agrees that Courts of New Delhi, India shall have exclusive jurisdiction.

Dated this.....day of

At

(SIGNATURE)
(Full name and address in of official capital letter)

(Designation with Bank Stamp)
Date

Witness No. 1
Signature

Full name and Address (in capital letters).....
.....

Witness No. 2
Signature
Full name and Address (in capital letters).....
.....

* Applicable where the party is foreign one.

** Applicable where the party is Indian.

3.1 INSTRUCTIONS

(FOR FILLING UP BANK GUARANTEE FOR PERFORMANCE BOND)

- I. The Bank guarantee should be stamped in accordance with the stamp act.
 - II. The non-judicial stamp paper should be in the name of the issuing bank.
The bank also agrees that the Court of New Delhi India shall have exclusive jurisdiction.
- a. The period one year mentioned in clause 6 should be available after the expiry of the validity period/satisfactory performance, as the case may be, or any extension of such period.
 - b. The Bank Guarantee by bidders will be given from any Scheduled Commercial Bank in India.
 - c. In the case of guarantee by a foreign bank, the same should be got confirmed by an Indian Commercial bank.

ANNEXURE-14B (FORM-14B)

PROFORMA FOR INSURANCE SECURITY BOND FOR PERFORMANCE SECURITY

(To be stamped as per the Indian Stamp Act and executed by an IRDAI-licensed Insurer)

Insurance Bond No.: _____

Date of Issue: _____

To
PRASAR BHARATI
(India's Public Service Broadcaster)
DG: Doordarshan,
Doordarshan Bhawan, Copernicus Marg, NEW DELHI

INSURANCE SECURITY BOND FOR PERFORMANCE GUARANTEE

1. In consideration of _____ having its head office at New Delhi (hereinafter referred to as the "Organisation", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns), having entered into a Contract dated _____, bearing No. _____, dated _____ (hereinafter called 'the Contract' which expression shall include all the amendments thereto) with M/s _____, having its registered office at _____ (hereinafter referred to as the "Contractor", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, and assigns), and the Contractor having unequivocally accepted the contract for a total value of Rs. _____ (Rupees _____ only), the Contractor is required to furnish a Performance Security to the Organisation to the extent of (4 %) of the contract value, i.e., Rs. _____ (Rupees _____ only).
2. We, _____ (name of the Insurer), a company registered and licensed under the Insurance Regulatory and Development Authority of India (IRDAI) under registration number _____, having its registered office at _____ (hereinafter referred to as the "Insurer"), hereby issue this Insurance Security Bond irrevocably and do hereby guarantee and undertake to pay Prasar Bharati on first written demand and without demur, protest, or contest, and or without reference to the Contractor any amount or amounts not exceeding in aggregate Rs. _____ (Rupees _____ only), if the Contractor fails to fulfill its contractual obligations as specified in the said Contract.
3. The Organisation shall have the absolute right, without notice to or consent of the Contractor, to invoke this Insurance Bond and claim the full or partial amount at any time during the validity of this bond. Any such demand made by the Organisation shall be binding on the Insurer as to the amount and validity of the claim.

4. This Bond shall remain valid until __ (expiry date) and shall be automatically extended in the event the Organisation grants an extension of time for performance under the said Contract. The Insurer shall not revoke this bond during its currency without the prior written consent of the Organisation. The Organisation shall have full liberty, without affecting this bond, to vary the terms of the Contract or grant extensions of time for the performance thereof. The liability of the Insurer shall not be affected or discharged by such variations or extensions or by any forbearance, indulgence or waiver by the Organisation.
5. This bond shall not be affected by the insolvency, winding up, dissolution, or liquidation of the Contractor. The liability of the Insurer under this bond shall be absolute and unequivocal.
6. Notwithstanding anything contained herein, the maximum liability of the Insurer under this Bond shall be Rs. _____ (Rupees _____ only), and it shall remain in full force up to and including 60 days after the expiry of the warranty/performance period or such extended period as may be instructed in writing by M/s _____, on whose behalf this bond has been issued. Any claim under this bond must be received by the Insurer on or before one year from the said expiry date. If no claim is received within that period, all rights of the Organisation under this bond shall cease.
7. This Bond is issued subject to the approval and in accordance with the applicable IRDAI guidelines and Indian laws. It shall be governed by and construed in accordance with Indian law and subject to the exclusive jurisdiction of the courts at New Delhi.
8. All Claims against this **Insurance Surety Bond**, shall be remitted by the (Insurer's name to be inserted) to the following account of Prasar Bharati only through electronic transfer of funds, unless otherwise specifically communicated by Prasar Bharati :
 - 1) Beneficiary Account Name:
 - 2) Bank Name
 - 3) Bank Account Number:
 - 4) IFSC Code:

IN WITNESS WHEREOF, this Insurance Security Bond has been executed by the authorized signatory of the Insurer on this _____ day of _____, 202x at _____.

For and on behalf of the Insurer:

Signature: _____

Name: _____

Designation: _____

Stamp/Seal of the Insurer

Witnesses:

1. Signature: _____

Name: _____

Address: _____

2. Signature: _____
Name: _____
Address: _____

Notes:

- This bond must be executed on non-judicial stamp paper as per applicable laws.
- The Insurer must be licensed by IRDAI and authorized to issue such bonds.
- A copy of the IRDAI registration and authority letter must be annexed.
- Ensure all fields such as contract details, bond amount, expiry date, and contractor's name are filled accurately.

3. (GENERAL TERMS AND CONDITIONS (GTC))

(Each page must be signed and submitted along with your offer)

3.1.1 DEFINITIONS

Unless inconsistent with or otherwise indicated by the context, following terms stipulated in this GTC shall have the meaning as defined hereunder.

3.1.2 ORDER

3.1.3 Shall mean written purchase order or acceptance of Tender (AT) issued by this organisation to the successful bidder including subsequent amendments to ORDER or AT in writing thereof.

3.1.4 THE ORGANISATION /PURCHASER

Shall mean DG: DOORDARSHAN, acting on behalf of the PRASAR BHARATI (India's Public Service Broadcaster), which shall include all their legal representatives, successors and assignees.

3.1.5 SUPPLIER/CONTRACTOR

Shall mean any person or persons of firm or company in India as well as abroad whose bid has been accepted by this Organisation and the legal representation, representatives, successors and permitted assignee of such person, persons, firm or company.

3.1.6 SUB-CONTRACT

Shall mean ORDER placed by the SUPPLIER/CONTRACTOR for any portion, of the ORDER or work subletted with necessary written consent of this Organisation on third party. Such subletting shall not relieve the contractor from any obligation, duty or responsibility under the Contract.

3.1.7 SUB-CONTRACTOR

Shall mean any person or persons or firm or their legal representatives, successors, assignees to whom part of ORDER has been subletted by the SUPPLIER/CONTRACTOR after necessary consent of this Organisation.

3.1.8 ORDER PRICE

Shall mean the sum accepted or the sum calculated in accordance with the rates accepted by this Organisation and amendments thereof and shall include all fees, registration and other charges paid to statutory authorities without any liability on the Organisation for any of these charges unless specially agreed to, in writing by this Organisation.

3.1.9 DELIVERY PERIOD

Shall mean receipt of the stores, erection & commissioning of the stores depending on the type of contract (Supply of Stores/SITC/SETC) by the date specified in the ORDER.

3.1.10 DESTINATION

Shall mean the location of the consignees for which this ORDER has been issued.

3.1.11 EQUIPMENTS/MATERIALS

Shall mean and include any equipment, instruments, stores and goods to be supplied for under the ORDER and amendments thereto.

3.1.12 DRAWINGS

Shall mean and include all Engineering sketches, general arrangements, layout drawing Sectional plans, and all elevations etc., related to the ORDER together with modification and revision thereto.

3.1.13 SPECIFICATIONS

Shall mean and include detailed description, statements to technical data, performance characteristic and standards (Indian as well as international as applicable and as specified in the ORDER.

3.1.14 INSPECTORS

Shall mean any person or outside Agency nominated by this Organisation to inspect equipment, materials and services, if any, in the contract stage-wise as well as final on receipt at destination as per the terms of the ORDER.

3.1.15 TESTS

shall mean such process or processes to be carried out by the SUPPLIER/CONTRACTOR as are prescribed in the ORDER considered necessary by this Organisation or their representative in order to ascertain quality, workmanship, performance and efficiency of equipment or part thereof.

3.1.16 APPROVAL

Shall mean and include the written consent either manuscript, typewritten or printed statement under or over signature or seal as the case may be of this Organisation or the representative or documents or other particulars in relation to the ORDER.

3.1.17 F.O.R./F.O.B./FAS, C&F, CIF shall mean the terms as explained in INCO terms.

3.1.18 SCOPE OF ORDER

Scope of the order shall be as defined in the ORDER, specifications, drawings and Appendices thereto.

3.2 Completeness of the EQUIPMENT shall be the responsibility of the SUPPLIER/CONTRACTOR. Any equipment, fittings and accessories, which may not be specifically mentioned in the specification or drawing (s) but which are usual or necessary for the satisfactory functioning of the EQUIPMENT (successful operation and functioning of the equipment being SUPPLIER'S/CONTRACTOR'S

responsibility) shall be provided by the SUPPLIER/CONTRACTOR without any extra cost.

- 3.3 The SUPPLIER/CONTRACTOR shall follow the best modern practice in the manufacture of high grade EQUIPMENT notwithstanding any omission in that, the SUPPLIER/CONTRACTOR shall in all respect design, engineer, manufacture, and supply the same within delivery period to the entire satisfaction of the Organisation.

3.4 WORK TO BE CARRIED OUT UNDER THE ORDER

All equipment to be supplied and work to be carried out under the ORDER shall conform to and comply with the provision of relevant regulations/Acts (State Govt. or Central Govt.) as may be applicable to the type of equipment/work carried out and necessary certificate shall be furnished.

3.5 SPECIFICATION, DRAWING, TECHNICAL MANUALS

- 3.5.1 The SUPPLIER/CONTRACTOR shall furnish copies as required by this organisation and specified in the “Technical Specifications” at Appendix-D, of the technical documents, final drawing, preservation instructions, operation and maintenance manuals, test certificates, spare parts catalogue etc. before dispatch of the equipment.

- 3.5.2 The supplier/contractor shall be responsible for any loss to this Organisation consequent to the furnishing of the incorrect data/drawings.

- 3.5.3 Specifications, design and drawings issued by this Organisation to the supplier/contractor along with tender specification and ORDER are not to be sold or given on loan. These documents continue to remain property of this Organisation or their assignee and are subject to recall by this Organisation.

- 3.5.4 The SUPPLIER/CONTRACTOR and its employees shall not make use of the drawings, specification and technical information for any purpose any time and shall not disclose the same to any person, firm or corporate authorities without written permission of the Organisation. All such details shall be kept confidential.

- 3.5.5 In order to facilitate quick disposal, copies of the drawing for approval shall be sent directly and simultaneously to the authorities specified in the order in addition to the sets submitted to authority issuing order.

3.6 ACCEPTANCE OF ORDER

- 3.6.1 Within fifteen (15) days from date of mailing of ORDER, SUPPLIER/CONTRACTOR shall confirm acceptance of the order in its entirety.

- 3.6.2 The ORDER is accepted unconditionally by SUPPLIER/CONTRACTOR by returning to this Organisation copy of the ORDER duly signed, without qualification.

- 3.6.3 When SUPPLIER/CONTRACTOR has accepted the order with all its terms and conditions, Bidder’s Bid with General sales conditions and all previous correspondence are considered superseded and void.

- 3.6.4 Should SUPPLIER/CONTRACTOR not respect the time limit for the confirmation of the order or in case BIDDER cannot accept the ORDER without qualifications, this Organisation reserves the right to cancel, in writing, without prejudice to other terms,

the entire ORDER or part of it without notice. Under these circumstances the earnest money /bid bond given by the supplier will be forfeited in full.

3.7 MODIFICATION IN ORDER

3.7.1 All modifications leading to changes in the order with respect to technical and commercial aspects, including terms of delivery, shall be considered valid only when accepted in writing by this Organisation by issuing an amendment to the ORDER.

3.7.2 This Organization shall not be bound by any printed conditions, provision in the SUPPLIER'S BID, forms of acknowledgement of ORDER, invoice, packing list and other documents, which purport to impose any condition at variance with or supplement to ORDER.

3.8 PERFORMANCE SECURITY DEPOSIT.

3.8.1 The successful bidder, within 30 (Thirty) days of the receipt of order/letter of intent, will be required to send Security Deposit in the form of Bank Draft/NEFT or in lieu thereof a Bank Guarantee from an Scheduled Indian Commercial Bank for amount as indicated in Para 1.7.1 of the "Invitation to Bid". Being a FOR destination contract, the Security Deposit shall be 3 % of the value of the order,(Ref: Circular-05/PP/2023 Dated 06/05/2023 issued by Procurement Policy Wing of Prasar Bharati)

3.8.2 The security money may be deposited in the form of Bank guarantee/TDR in the proforma enclosed as Appendix to these General Terms and Condition (GTC).

3.8.3 This Organisation shall not be liable to pay any Bank Charges, Commissions or interest on the amount of Security Deposit/Performance Bond.

3.8.4 Security Deposit, Performance Bond shall be refunded to the supplier after completion of warranty period as stipulated in the order. If the materials are supplied in the extender delivery period, the supplier will extend the validity of Bank Guarantee accordingly and the Bank Guarantee will be released after extended validity is expired.

3.8.5 For any equipment or spare parts thereof replaced during Guarantee/warranty period, it shall have further warranty for a period of 12 months from the date of acceptance as per Clause 3.9.5. The supplier will extend the validity of Bank Guarantee for a value proportionate to the value of the equipment for the period commensurate with the period of Guarantee/Warranty extension and the Bank Guarantee will be released after completion of extended warranty period subject to fulfillment of other conditions stipulated in Clause 3.9.1 to 3.10.2 below.

3.9 WARRANTIES AND GUARANTEES.

MATERIALS AND WORKMANSHIP As per Clause 8.3 of specification No SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026

Unless some special Warranty/Guarantee clause has been stipulated elsewhere in the invitation to the tender or any of its Appendix, the following warranty shall form part of the contract placed on successful tender:-

3.9.1 SUPPLIER/CONTRACTOR shall fully warrant that all the stores, Equipment and components supplied under the ORDER shall be new and of first quality according to the specifications and shall be free from any defects (concealed fault, deficiency in design, materials and workmanship).

3.9.2 Should any defects be noticed in design, material and/or workmanship within 15 months from the date of shipment/dispatch of last consignment or 12 months from the date of receipt/commissioning of the equipment, or the guarantee/warranty period as specified in specifications(Appendix-D) whichever is later, the organization shall

inform Supplier/Contractor and Supplier/Contractor shall immediately on receipt of such intimation, depute their personnel within 14 days to investigate the causes of defects and arrange rectification/replacement/modification of the defective equipment at site without any cost to the Organization within a reasonable period(Maximum upto 30 days). If the Supplier/Contractor Fails to take proper corrective action to repair/replace the defects satisfactorily within the reasonable period, this Organization shall be free to take such corrective action as may be deemed necessary at SUPPLIER'S/CONTRACTOR'S risk and cost after giving notice to the SUPPLIER/CONTRACTOR.

- 3.9.3** Damage to the machinery and/or equipment due to incomplete and erroneous instructions issued by Supplier/Contractor will be responsibility of the Supplier/Contractor and will be treated according to the provisions of warranty clause. Normal wear & tear shall not come under purview of this clause.
- 3.9.4** In case defects are of such nature that equipment shall have to be taken to Supplier's/Contractor's Works for rectification etc. Supplier/Contractor shall take the equipment at his cost after giving necessary undertaking or security as may be required by the Organisation. This Organisation shall, if so required by the Supplier/Contractor, dispatch the equipment by quickest mode on "Freight-to pay" basis to the Supplier's/ Contractor's works. After repairs, Supplier/Contractor shall deliver the equipment at site on freight prepaid basis. All risks in transit to and fro shall be borne by the Supplier/Contractor.
- 3.9.5** Equipment or spare parts thereof replaced shall have further warranty for a period of 12 months from the date of acceptance.
- 3.9.6** The Supplier/Contractor shall guarantee that they will supply spare parts if and when required on agreed price. The agreed price should include, but without any limitation to, agreed discount on the published catalogue price or on agreed percentage of profit on the landed cost.
- 3.9.7** The Supplier/Contractor will warranty that before going out of production for any of the spare parts, they will give adequate advance notice to the purchaser so that the latter may undertake to procure, if necessary, the balance of the life time requirements.
- 3.9.8** If the repairs, replacement or modification referred are of such nature as may affect the efficiency of the EQUIPMENT, this Organisation shall have the right to give to the SUPPLIER/CONTRACTOR, within one month of such replacement/renewal, notice in writing to carry out test as may be required for acceptance of the equipment.
- 3.9.9** If the Supplier/Contractor fails to honour his obligation to repair or replace defective goods within a reasonable period of time, or if Supplier/Contractor refuses to carry out work under the guarantee clause and implied guarantee condition, if danger is anticipated or in case of severe urgency, the Organisation shall be entitled to carry out, at Supplier's/Contractor's cost and risk, repair work or replacement deliveries or have it done by a third party. In case not all goods have been delivered by Supplier/Contractor, this Organisation is entitled to procure the remaining goods at Supplier's/Contractor's cost and risk. This does not relieve Supplier/Contractor of any of his guarantee obligations. Taxes and duties of any kind whatever imposed by the authorities of the country of the supplier/contractor or his sub-contractors until delivery shall be borne by supplier.

3.10 PERFORMANCE GUARANTEE

3.10.1 SUPPLIER/CONTRACTOR shall guarantee that the performance of the EQUIPMENT/MATERIAL supplied under the order shall be strictly in conformity with specification and shall perform the duties specified under the ORDER.

3.10.2 The SUPPLIER/CONTRACTOR shall guarantee that the materials/equipment that shall be purchased from the sub-contractor(s) shall be such as to fulfill the requirements laid down vide Para 3.9.1 to 3.10.1 above and shall undertake to ensure fulfillment of these requirements.

3.11 REJECTION

If the ORGANISATION finds that the goods supplied are not in accordance with the specification and other condition stated in the order or its sample (s) are received in damaged conditions (of which matters this Organisation will be the sole judge), this Organisation shall be entitled to reject the whole of the goods or the part, as the case may be, and intimate to the supplier/contractor the rejection without prejudice to the Organisation's other rights and remedies to recover from the supplier any loss which the ORGANISATION may be put to, also reserving the right to forfeit the security deposit/performance bond, if any, made for the due fulfillment of the contract. The goods shall be removed by the supplier/contractor and if not removed within 14 days of the date of communication of the rejection, the Organisation will be entitled to dispose-off the same on account and at the risk of the supplier/contractor and after recovering the storage charges at the rate of 5% of the value of goods of each month or part of month and loss and expense, if any caused to the Organisation, pay balance to the supplier/contractor.

3.12 FAILURE AND TERMINATION CLAUSE

Time and date of delivery shall be the essence of the contract. If the supplier/contractor fails to deliver the stores, or any installment thereof, within the period fixed for such delivery in the schedule or at any time repudiates the contract before the expiry of such periods, the Purchaser may, without prejudice to any other right or remedy available to him to recover damages for breach of the contract:-

3.12.1 recover from the Supplier/Contractor as agreed, liquidated damages including administrative expenses and not by way of penalty, While granting an extension of the delivery period, where the delivery of stores or any installment thereof is accepted after expiry of the original delivery period, the Purchaser shall recover from the contractor, as agreed, the LD a sum equivalent to 0.5 (Half) percent of the prices of any portion of stores delivered late, for each week or part thereof of delay. The total damages shall not exceed 10 (Ten) percent of the value of delayed goods/Units. **If the delayed supply/unit found vital for the functioning of the entire supply/unit, then the entire unit/Supply shall consider as delayed supply/ unit for the calculation of LD.** The LD shall not exceed the amount stipulated in the contract. After a full period of extension, termination of the contract will be considered by the Organization.

3.12.2 purchase or authorize the purchase elsewhere on the account and at the risk of the supplier/contractor, of the stores not delivered/SITC/SETC not carried out or other of a similar description (where stores/ SITC/SETC exactly complying with the particulars

are not in the opinion of the purchaser, which shall be final, readily procurable) by serving prior notice to the supplier/contractor without cancelling the contract in respect of the installment not yet due for delivery; or

- 3.12.3** cancel the contract or a portion thereof by serving prior notice to the supplier/contractor and if so desired purchase or authorize the purchase of the stores not delivered /SITC/SETC not carried out or others of a similar description (where stores not delivered/ SITC/SETC not carried out, exactly complying with particulars are not in the opinion of the purchaser, which shall be final, readily procurable) at the risk and cost of the supplier/contractor. If the supplier/contractor had defaulted in the performance of the original contract, the purchaser shall have the right to ignore his tender for risk purchase even though the lowest. Where the contract is terminated at the risk and cost of the firm under the provisions of this clause, it shall be at the discretion of the purchaser to exercise his discretion to collect on not, the Security Deposit from the firm on whom the contract is placed, at the risk and expense of the defaulted firm.
- 3.12.4** Where action is taken under sub-clause 3.12.2or sub-clause 3.12.3 above the supplier/contractor shall be liable for any loss which the purchaser may sustain on that account, provided the purchase or if there is an agreement to purchase, such agreement is made in case of failure to deliver the stores, within 6 months from the date of such failure and in case of repudiation of contract the supplier/contractor shall not be entitled to any gain on such the entire discretion of the purchaser to serve a notice of such purchase on the contractor.
- 3.12.5** It may further be noted that clause 3.12.1 above provides for recovery of liquidated damages on the cost of the contract price of delayed supplies at the rate of 1/2% (Half Percent) of the contract price of the delayed unit or effective delay occurred unit (even if it has been supplied) for per week for such delay or part thereof up to a ceiling of 10% of the contract price of delayed supplies/SITC/SETC. **If the delayed supply/unit found vital for the functioning of the entire supply/unit, then the entire unit/Supply shall consider as delayed supply/ unit for the calculation of LD.** Liquidated damages for delay in supplies/SITC/SETC thus accrued will be recovered by the Paying Authority on instruction as specified in the supply order, from the bill for payment of the cost of material/works submitted by the contractor in accordance with terms of supply order on instruction from Purchaser regarding liquidated damages amount.
- 3.12.6** Notwithstanding anything stated above, equipment and materials will be deemed to have been delivered/SITC/SETC will be deemed to have been carried out only when all its components/parts are also delivered. If certain components of stores are not delivered in time/SITC/SETC not carried out in time, the stores/SITC/SETC will be considered as delayed until such time all the missing parts are also delivered.

3.13 INSPECTING/TESTING OF MATERIAL

The inspection of material will be carried out by the authority specified in the purchase order. The material will be accepted only after the same has been found satisfactory after inspection and duly marked and sealed by the Inspection Authority.

- 3.13.1** The supplier/contractor shall ensure that the material to be supplied against this order shall be individually inspected, tested and analysed in terms of the specifications attached to the

tender and the relevant codes and practices specified therein by expression or implication. Necessary test reports shall be provided as required.

- 3.13.2** The supplier/contractor should make available to the Organisation and any other individual/agency authorised by the Organisation for the purpose of inspection all its records and results in respect of inspection, test and analysis conducted by it as part of their manufacturing and testing operation under the applicable codes and practices specified by expression or implication in the tender.
- 3.13.3** Inspection tests and analysis shall be carried out/conducted at the supplier's/ contractor's works by the authorised representative of the Organisation and the cost of such inspection tests and analysis including the cost of to and fro air fare and accommodation and cash allowances payable shall be borne by the Organisation.
- 3.13.4** The Contractor shall provide and deliver free of charge for tests/analysis by an independent authority at any such place or places as the Organisation or its authorised inspector may reasonably require such raw material (s) used or intended to be used for the contracted work by the Contractor as the Organisation/Inspector shall consider necessary. The cost of such tests/analysis shall be borne by the Contractor.
- 3.13.5** This Organisation shall be entitled at all times, whether prior to, during or after the completion of inspection by itself and/or through inspectors appointed by the Organisation at the Organisation's cost, to inspect, test and/or analyses and/or to direct the Supplier/Contractor in all respect of any store(s) or materials processes used or proposed to be used in the fabrication of the product of any of them. The said inspection, tests and analysis as far as required, is to be conducted in the presence of the inspectors. The supplier/contractor shall ensure that the inspecting personnel referred to above are given free access to all the required places and information connected with their work, besides working facilities to carry out their function.
- 3.13.6** Should the supplier/contractor fail to comply with any of the provisions aforesaid relating to inspection, testing and /analysis the Organisation shall be entitled by itself and/or through inspectors to conduct or have conducted the inspection, test and/or analysis at the risk and expense of the supplier/contractor in all respects.
- 3.13.7** No rejected raw materials shall be used for the contracted work or re-tendered for inspection and/or test except with the prior permission of concerned Inspectors.
- 3.13.8** Unless otherwise specifically authorised by the Organisation in writing, the supplier/contractor shall not ship or dispatch for shipment under the contract entered into, any material which has not been properly inspected/tested marked and in respect of which a certificate of quality has not been issued or signed by the inspectors.
- 3.13.9** In addition to the general conditions of the inspection stated above, the supplier/ contractor shall also satisfy all the specific conditions of inspection as enumerated in the specification attached.
- 3.13.10** In addition to inspector(s) the Organisation shall be entitled to nominate, depute or designate a representative to be stationed at the supplier's/contractor's factory in order to supervise and/or coordinate operations related to the contract. In the event of there being more than one factory involved in the work entrusted to the supplier/contractor, the Organisation shall be entitled to nominate/depute or appoint such representative(s) as necessary in respect of each such factory.

- 3.13.11** The supplier/contractor shall ensure that the material to be supplied against this order shall be individually inspected, tested and analysed in terms of the specifications attached to the tender and the relevant codes and practices specified therein by expression or implication. Necessary test reports shall be provided as required.
- 3.13.12** The posting of such a representative by the Organisation or his actions in any manner does not absolve the supplier/contractor of any liability, and/or responsibility under this contract. The representative's posting shall be treated as advisory to the Organisation.
- 3.13.13** For false calls for the cases where material is rejected on inspection, the supplier/Contractor will bear the actual cost of inspection incurred/suffered by the Organisation.
- 3.13.14** Place of inspections specified in supply order will not be changed without written confirmation from the Purchase Authority.

3.14 SUB-STANDARD MATERIAL/REPLACEMENT OF REJECTED GOODS

- 3.14.1** If the Organisation finds that MATERIAL supplied are not of the correct quality or not according to specification required or otherwise not satisfactory owing to any reason of which the Organisation will be the sole judge, the Organisation will be entitled to reject materials, cancel the contract and buy its requirement in the open market at the risk and cost of supplier, reserving always to itself the right to forfeit the security deposit/performance bonds placed by the supplier for the due fulfillment of the contract.
- 3.14.2** Rejected goods should be removed and replaced within 14 days of the date of communication of rejection.

3.15 SUBLETTING AND ASSIGNMENT

The contractor shall not save with the previous consent in writing of the purchase Authority, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever, provided nevertheless that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

3.16 INTER/CHANGEABILITY OF PARTS

- 3.16.1** If against any item it becomes necessary to supply spare parts other than specified, the supplier/contractor shall be required to give the following certificate to the purchaser before arranging supply of spare parts bearing different parts numbers. If there is any obvious typographical or clerical error in the part number and /or description of any item, the supplier/contractor will supply the correct part. The aforesaid certificate should be supplied in such cases also. The supplier will furnish this certificate in either case, to the paying authority. No formal amendment is necessary in such cases.
- 3.16.2** “The changed part numbers are an exact replacement of parts ordered and are suitable for and will fit in equipment/machines and the existing fittings for which they are intended without in any way affecting the efficiency and quality of performance of the equipment/machines.”

3.16.3 If however, the substitute spare part is not a bare replacement of the part originally ordered and involves a purchase of other items in addition, as would be the case when a kit is offered instead of one small item(s) forming part of the kit, the supply of the kit would be subject to the following conditions:-

3.16.3.1 The supply of the kit will be accompanied with a certificate that the manufacturer has definitely stopped supply of the spare parts but supplying only a kit.

3.16.3.2 The spares will not be supplied as kit unless prior acceptance of the same has been obtained from the purchaser.

3.16.3.3 In case the supply of the kit involves any change in the price and if so, the revised price would be stated for scrutiny and incorporation of the same in the supply order, if found acceptable.

3.17 Provided further that if any part numbers are declared by the purchaser to be unsuitable to the machines for which they have been supplied within 60 days from the date of arrival of the stores at site, the supplier/contractor will take them back at their own cost and expense.

3.18 BREAKAGE/SHORTAGE

3.18.1 Claim in respect of breakage/shortages, if any, shall be preferred on the supplier/contractor within thirty days from the date of receipt of stores at destination by Ultimate consignee which shall be replaced/made good by the supplier/contractor at his own cost.

3.18.2 All risk or loss or damage to the material shall be upon the supplier/contractor till it is delivered in accordance with the terms and conditions of the supply order.

3.19 DESIGNS, PATENTS AND ROYALTIES

If any material used or methods or processes practiced or employed in the manufacture of items to confirm with the requirement of the contract is/are covered by a patent(s) in respect of which contractor is not licensed, the contractor shall before using the material, method or process, as the case may be, obtain such license(s) and pay such royalty/royalties and license fee(s) as may be necessary. The contractor shall keep the Organisation indemnified from and against any and all claims, actions demand and proceedings whatsoever brought or made against the Organisation on the basis of any patent or infringement thereof claimed or otherwise relating to and arising from any method or process employed or matter or thing done to or in connection with any work executed by the contractor. The contractor shall at their own risk and expense defend any suit for infringement of patent or like suits brought against the Organisation (whether with or without the contractor being a party thereto and shall pay damages and costs awarded in such suit and keep the Organisation indemnified from and against all consequence thereof.

3.20 FORCE MAJEURE

3.20.1 If any time during the continuance of the contract the performance in whole or in part by the Successful Bidder shall be prevented or delayed by reason of any war, hostility acts of the public enemy, civil commotion, sabotage, fire, floods, explosions, epidemics, Quarantine restriction, strikes, lock-outs or acts of god, **(but not including**

negligence or wrong-doing, predictable/seasonal rain) herein after refer to as events and provided notice of happenings of any such eventuality is given by the successful Bidder in writing within 07 days from the date of occurrence thereof **(and it cannot be claimed ex-post facto)**, the purchaser shall by reason of such event, neither cancel this order nor shall claim for damages against the contractor in respect of such non-performance or delay in performance and delivery shall be resumed as soon as practicable after such events have come to an end or ceased to exist. However, if such event continues for a period exceeding 90 days, either party may at its option terminate the contract by giving notice to the other party.

- 3.20.2** If the deliveries are suspended by force majeure conditions lasting for more than 90 days, the organization have the option of cancelling this contract in whole or part at its discretion without any liability on its part of the Purchaser,

3.21 LANGUAGE/TERMINOLOGY

The supplier/contractor shall ensure the language/terminology/description of goods used in supply order/bill of lading/Invoice any other documents dispatched by the supplier is verbatim in English.

3.22 FALL CLAUSE

- 3.22.1** The price for the stores/services/works under the contract/Supply order by the contractor/Supplier shall in no event exceed the lowest price at which supplier/contractor or his agent/principal/dealer as the case may be, sells the stores /services/works or offers to sell stores/services/works of identical description to any persons/organizations including the purchaser or any department of the Central Govt. or any Deptt. of State Govt. or any Statutory undertaking of the Central or State Govt., as the case may be, during the currency of the contract supply/work order.

- 3.22.2** If at any time, during the said period, the contractor/supplier or his agent/principal/dealer as the case may be, reduce the sales price, sells or offers to sell such stores/services/works to any persons/organizations including the purchaser or any Deptt. of Central Govt. of any Deptt. of a State Govt. or any statutory undertaking of the Central or State Govt. as the case may be, at a price lower than the price chargeable under the contract/supply order, he shall forthwith notify such reduction or sale or offer of sale to the Purchase Authority who has issued this contract/supply order and price payable under the contract/supply order for the stores supplied/services rendered/works carried out after the date of coming into force of such reduction or sale or offer of Sale shall stand correspondingly reduced. The above stipulation will however, not apply to :--

- a) Exports by the contractor/supplier; or
- b) Sale of goods as original equipment at prices lower than the prices charged for normal replacement.

- 3.22.3** The contractor/supplier shall furnish the following certificate to the concerned Purchaser.

"I/We certify that there has been no reduction in sale price of the stores/services of description identical to the stores/services supplied to PRASAR BHARATI (India's Public Service Broadcaster), DIRECTROATE

GENERAL: DOORDARSHAN under the contract/supply order here in and such stores/services have not been offered/sold by me/us to any person organisation including the purchaser or any Deptt. of Central Govt. or any Deptt. of a State Govt. or any statutory Undertaking of the Central or State Govt. as the case may be upto the date of bill during the currency of the supply order contract whichever is later at a price lower than the price charged to the Organisation under the contract/supply order except for quantity of stores categories under sub-clauses (a) and (b) of sub para (3.22.2) above, details of which are as follows.....

In case, if the price charged by our firm is more, Prasar Bharati will have the right to recover the excess charged amount from the subsequent/unpaid bill of the supplier.

3.23 PACKING & MARKING

3.23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. Each package shall have a detailed packing list in duplicate indicating:

3.23.1.1 Supply order number & date

3.23.1.2 Brief description of consignment

3.23.1.3 Name and address of the consignee.

3.23.1.4 Name and address of the Suppliers.

3.23.1.5 Item-wise nomenclature and part number and given reference with quantities to assembly drawing.

3.23.1.6 Tag number for all items contained in the package.

3.23.1.7 Gross weight and outer dimension of the package.

3.23.1.8 Packing list package-wise package marks and numbers

3.23.1.9 Any other requirement relevant to the contract

3.23.2 Another copy of the packing list shall be put in a waterproof envelope and fastened securely to the outside of the Package.

3.23.3 Shipping Of Documents:

3.23.3.1 Invoice showing value item-wise as per supply order for customs purposes, in triplicate drawn in the name of the “PRASAR BHARATI (BCI), DG: DOORDARSHAN, DOORDARSHAN BHAWAN, NEW DELHI” and duly manually signed by the supplier or their authorised representative.

3.23.3.2 Certificate of test inspection from manufacturer/supplier.

3.23.3.3 Certificate of recent manufacture.

3.24 INSURANCE

3.24.1 The Successful Bidder shall arrange for the insurance covering the risk during transit, storage and installation till commissioning. The Bidder shall take insurance for his men while working at the Prasar Bharati site against any accident, death, etc. Similarly equipments, instruments, tools etc. belonging to the Bidder shall be insured against damage, loss, theft etc. All the charges for such insurance shall be borne by the Bidder.

3.25 SHORT/DAMAGE/DEFECTIVE/NON RECEIPT OF MATERIAL

The supplier is responsible for safe arrival of the material up to destination. In case, there find any shortage/breakage of material, the supplier will make good the deficiency at the earliest.

3.26 PROGRESS OF MANUFACTURING OF ITEMS

From the date of receipt of order the manufacturer will send a report on monthly basis to the purchase Authority about the progress on manufacturing of item(s) ordered from him. The monthly progress report will be sent on a regular basis till completion of the entire supply as per delivery date indicated in supply order.

3.27 ARBITRATION

3.27.1 If any dispute, difference, question or disagreement shall at any time, hereafter arise, between the parties hereto or the respective representatives or assignees in connection with or arising out of the contract or in respect of meaning of specification, design, drawings, estimates, schedules, Appendix(s), orders, instructions, the construction, interpretation of this agreement, application of provisions thereof or anything hereunder contained or arising hereunder or as to the rights, liabilities or duties of the said parties hereunder or any matter whatsoever incidental to this contract or otherwise concerning the works of execution or failure to execute the same whether during the progress of work or stipulated/extended periods or before or after the completion or abandonment thereof, it shall be referred to the sole arbitration of the person appointed by the Chief Executive Officer, Prasar Bharati .

3.27.2 If an arbitrator to whom the matter is referred dies or refuses to act or resigns for any reason from the position of arbitrator, it shall be lawful for the Chief Executive Officer, Prasar Bharati to appoint another person to act as arbitrator in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor if both the parties consent to Chief Executive Officer, Prasar Bharati to this effect failing which the arbitrator will be entitled to proceed de-novo.

3.27.3 It is a further term of this contract that no person other than the person appointed by the Chief Executive Officer, Prasar Bharati as aforesaid shall act as arbitrator and that, if for any reason that is not possible, the matter is not to be referred to the arbitration at all.

3.27.4 The arbitrator(s) may from time to time, with the written consent of all the parties to the contract, enlarge the time for making and publishing the award.

3.27.5 It is a term of the contract that the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under the clause.

3.27.6 It is also the term of the contract that the contractor shall not stop the work under this contract and work shall continue as expected to continue whether the arbitration proceedings have commenced or not.

3.27.7 The arbitrator shall give reasoned award in respect of each dispute or difference referred to him. The award as aforesaid shall be final and binding on all the parties to the contract in accordance with the Indian law.

3.27.8 The Venue of the arbitration shall be at New Delhi, India. Subject to as aforesaid, the provision of the Indian Arbitration and Conciliation Act, 1996 and any statutory

modifications or re-enactments thereof and rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause.

3.28 COMPLAINE OF SPECIFICATIONS

- 3.28.1** The successful Bidder shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing in respect of the work.
- 3.28.2** The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions”.
- 3.28.3** In the case of discrepancy between the schedule of Quantities, the Specifications and/or the Drawings, the following order of preference shall be observed: -
- 3.28.3.1** Description of Schedule of Quantities.
 - 3.28.3.2** Particular Specification and Special Condition, if any.
 - 3.28.3.3** Drawings.
 - 3.28.3.4** AIR/DD Specifications.
 - 3.28.3.5** Indian Standard Specifications of B.I.S.
- 3.28.4** If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
- 3.28.5** Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract

3.29 COMPLIANCE TO MINIMUM WAGE ACT

The Bidder shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

3.30 *APPLICABLE LAW

This contract, including all matters connected with this contract, shall be governed by the Indian laws, both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of Indian Courts.

* To be included in an international contract.

3.31 INTEGRITY PACT(Applicable for the Tender more than 2 Crore)

- 3.31.1** Signing of Integrity Pact (IP) is mandatory for every Bidder participating in this Bid (Tender value more than 2 Cr). A copy of the IP is enclosed (Form-12A), which may be deemed to have been signed by Prasara Bharati. The Bidder(s) and Prasara Bharati shall be bound by the provisions of IP in case any complaint relating to the tender is

found substantiated. The IP shall be executed on a plain paper and duly signed on each page by the same signatory who signs the bid document. Any bid not accompanied by duly signed IP by the Bidder would be rejected. Prasar Bharati has appointed the Independent External Monitor (IEM) nominated by Central Vigilance Commission (CVC). Contact detail of IEM is given in Form -12A. Any tender related complaint, for tenders covered under Integrity Pact having value of Rs.2 (Two) Crore and above, may be addressed to the Independent External Monitor (IEM).

3.31.2 VIOLATIONS & CONSEQUENCES:

- 3.31.2.1 If a Bidder commits a violation of its Commitments and Obligations under the Integrity Pact Programme during bidding process, their entire Earnest Money Deposit/ Bid Security, would be forfeited and in addition, they would be banned from the Prasar Bharati business in future.
- 3.31.2.2 In case of violation of the Integrity pact by Bidder after award of the Contract, Prasar Bharati shall be entitled to terminate the Contract. Further, Prasar Bharati would forfeit the security deposits/ Contract Performance Bank Guarantee. In case it is found that the Bidder has made any frivolous, untrue and misleading allegations against Prasar Bharati or its associates, Prasar Bharati reserves its right to initiate criminal proceedings against the violating Bidder and may also impose exemplary cost for the same

4 BID EVALUATION CRITERIA

	SALIENT FEATURES	BIDDERS CONFIRMATION
4.1.1	Open Tender No.	14(1)2026-27EI(P)TV
4.1.2	Single Stage Two Bid System	Two Bid System
4.1.3	Tender Processing Fee	As per Para 1.2.6 of Bid Data Sheet (BDS) and Para 2.1.7 of “Instructions to Bidder”
4.1.4	Validity Period of Bid	120 days from the date of opening i.e. up to and inclusive of date of opening.
4.1.5	Bid Security	Earnest Money Deposit(EMD) @ 3% of estimated contract value is Rs23,10,000/-
4.1.6	Performance Security	Would be required on placement of purchase order i.e. Four (4)% of the ordered value and shall be valid beyond 60 days from the date of expiry of guarantee/warranty with claim period up to one year from the date of expiry of guarantee/warranty.(Ref: Ministry of Finance,Department of Expenditure Order No.F.9/4/2020-PPD dated 30-12-2021.)
4.1.7	Delivery Period	Four months, as per Clause 8.5 of Specification no. SATD/ Compression_PowerSupply_Pitampu ra_Delhi/ May-26 Dated 21/05/2026
4.1.8	Last date of submission of Bid clarification	01/07/2026 17:00 Hrs
4.1.9	Time & Date of Submission of Tender	27/07/2026; 12:00 Hrs
4.1.10	Opening date of technical bid	27/07/2026; 13:00 Hrs
4.1.11	Opening date of price bid	Date will be notified later
4.1.12	Evaluation Methodology	As per Para 1.23 to Para 1.26 and Para 4.6

Note: -

- A. Latest updates regarding this tender can be accessed at Web-Site <https://prasarbharati.eproc.in>, <https://prasarbharati.gov.in>, and <https://eprocure.gov.in>.
- B. MII Exemption available for this tendered item.

4.2 VITAL COMMERCIAL CRITERIA FOR ACCEPTANCE

- 4.2.1** The following vital commercial conditions should be strictly complied with failing which the bid will not be considered.
- 4.2.2** Bid should be from actual manufacturers, public sector undertakings, supply houses/representatives/distributors/dealers/agents authorised by the Principals.
- 4.2.3** After opening of the price bids, if the Lowest Bid (L-1) rate is found substantially higher than the updated cost estimate or available budget, Prasar Bharati will cancel the procurement process/ reject all Bids; re-Tender will be invited afresh after detailed scrutiny of the estimated cost.
- 4.2.4** If the quoted rate for Bid, is found considerably lower than the estimated rates, it will be considered as abnormally low Bid; in such cases, Prasar bharati may seek written clarification from the Bidder, including detailed price analyses of its bid price in relation to scope, schedule, allocation of risks and responsibilities, and any other requirements of the bid's document. If, after evaluating the price analyses, Prasar Bharati determines that the bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Prasar Bharati may reject the bid/proposal.
- 4.2.5 SUBMISSION OF BID BOND/BANK GUARANTEE ALONG WITH BID**
- a) In case of domestic bidders, tender must be accompanied with Earnest Money Deposit in the form of either a Bank Draft/FDR Payable to <PB BCI, DG:DOORDARSHAN, NEW DELHI> or a Bank Guarantee from an Indian Scheduled Commercial Bank with the tender document. Bank Guarantee by domestic bidders will be given on non-judicial stamp paper as per stamp duty act applicable at New Delhi.
- b) The amount of Earnest Money Deposit should be as per the Notice Inviting Tender and it shall be as per Para 1.2.7 and Para 2.21; regarding Submission of Security Deposit cum Performance Bank Guarantee for execution of contract as well as for satisfactory performance of equipment during warranty period by the successful bidders; Acceptance of Failure and Termination Clause No.3.12 of Tender document; Acceptance of Warranty and Guarantee Clause No.3.9 of Tender document; Acceptance of jurisdiction clause No. 3.27 and 3.30 of tender document.
- 4.3** The Bidders to quote firm prices fully in Indian currency only.
- 4.4 CRITERIA FOR LOADING OF BIDS**
- The following criteria will be adopted for evaluation of bid:-
- 4.4.1** For delivery /completion periods quoted longer than that specified in the bid document, the quoted price shall be loaded 1/2% per extra week or part thereof subject to a maximum of 5% of the quoted price. Offer with delivery/completion period longer than 10 week beyond the stipulated delivery completion period will be rejected.
- 4.4.2** Bidders will not indicate a separate discount. Discount if any should be merged in the rates against the quoted items. Discount, if any, indicated separately will not be taken into account for bid evaluation purposes.
- 4.5 VITAL TECHNICAL CRITERIA FOR ACCEPTANCE OF BIDS**
- 4.5.1** Quotation in original must be from actual manufacturers, public sector undertakings, supply houses/representatives/distributors/dealers/agents authorised by the Principals.

- 4.5.2 In case the bidder is an authorised dealer/supply house, he should name the original manufacturer. Bidder should furnish a warranty to quality from the manufacturer and also furnish a certificate from the manufacturer that the bidder can quote items of the manufacturer directly. Offers not complying with these requirements will be rejected, without any notice/back reference.
- 4.5.3 Past performance report of similar items earlier supplied to this Organisation will be taken into consideration while evaluating this bid. The bid shall be rejected, if the past performance of the similar item earlier supplied to the Organisation is found to be unsatisfactory.
- 4.6 **PREFERENCE TO MAKE IN INDIA**
The policy of the Govt. of India to encourage “Make in India” and promote manufacturing and production of goods and services in India as per the revised “Public Procurement (Preference to Make in India), Order 2017”, circulated by the Department of Promotion of Industry and Internal trade, Ministry of Commerce & Industry, Govt. Of India vide Order No. P-45021/2/2017-PP (BE-II dated 16.09.2020, or latest order, if any, will be applicable for this tender.
- 4.6.1 **Definitions:** For the purpose of this Tender
- 4.6.1.1 **‘Local content’** means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
- 4.6.1.2 **‘Class-I local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this Tender.
- 4.6.1.3 **‘Class-II local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Tender.
- 4.6.1.4 **‘Non – Local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this Order.
- 4.6.1.5 **‘L1’** means the lowest tender or lowest bid received in response to this tender.
- 4.6.1.6 **‘Margin or purchase preference’** means the maximum extent to which the price quoted by a “Class-I local supplier” may be above the L1 for the purpose of purchase preference. For being eligible for purchase preference under this clause, the Margin of purchase preference shall be 20% (i.e. L1 + 20% band).
- 4.6.2 **Eligibility of ‘Class-I local supplier’/ ‘Class-II local supplier’ / ‘Non-local suppliers’ for this tender:**
As exemption from make in India clause has been granted in this tender, non-local suppliers, as defined under clause, 4.6.1.4, shall also be allowed to bid alongside Class-I and Class-II local suppliers, subject to fulfilling of other terms and conditions of the Tender document.

4.6.3 Purchase preference

Purchase preference shall be given to “class-I local supplier” for the purpose of this tender in the manner specified here under.

4.6.4 For the procurement of <_____> (In the procurement of Goods which are divisible in nature/ where the work Order could be divided)

The ‘Class-I local supplier’ shall get purchase preference over ‘Class-II local supplier’ as well as ‘Non-local supplier’, as per following procedure:

4.6.4.1 Among all qualified bids, the lowest bid will be termed as L1. If L1 is ‘Class-I local supplier’, the contract for full quantity will be awarded to L1.

4.6.4.2 If L1 bid is not a ‘Class-I local supplier’, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the ‘Class-I local supplier’ will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier’s quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such ‘Class-I local supplier’ subject to matching the L1 price. In case such lowest eligible ‘Class-I local supplier’ fails to match the L1 price or accepts less than the offered quantity, the next higher ‘Class-I local supplier’ within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

4.6.5 For the procurement of <_____> (In the procurement of Goods which are not divisible in nature/ where the work Order could not be divided)

The ‘Class-I local supplier’ shall get purchase preference over ‘Class-II local supplier’ as well as ‘Non-local supplier’ as per following procedure.

4.6.5.1 Among all qualified bids, the lowest bid will be termed as L1. If L1 is ‘Class-I local supplier’, the contract will be awarded to L1.

4.6.5.2 If L1 is not ‘Class-I local supplier’, the lowest bidder among the ‘Class-I local supplier’, will be invited to match the L1 price subject to Class-I local supplier’s quoted price falling within the margin of purchase preference, and the contract shall be awarded to such ‘Class-I local supplier’ subject to matching the L1 price.

4.6.5.3 In case such lowest eligible ‘Class-I local supplier’ fails to match the L1 price, the ‘Class-I local supplier’ with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the ‘Class-I local supplier’ within the margin or purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

4.6.6 “Class-II local supplier” and ‘Non – Local supplier’ will not get purchase preference.

4.6.7 **Minimum Local Content:** The local content requirement to categorize a supplier as “Class-I local supplier” / ‘Class-II local supplier’ / ‘Non-local supplier’ shall be as defined in the Para “4.6.1” above. No change is permissible on this account.

4.6.8 **Margin of Purchase Preference:** The margin of purchase preference shall be 20%. For being eligible for purchase preference under this clause, the Margin of purchase preference shall be 20% (i.e. L1 + 20% band)

4.6.9 Verification of local content:

- 4.6.9.1** The ‘Class-I local supplier’ / “Class-II local supplier’ at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for ‘Class-I local supplier’ / ‘Class-II local supplier’, as the case may be. They shall also give details of the location(s) at which the local value addition is made.
- 4.6.9.2** Prasar Bharati may constitute committees with internal and external experts for independent verification of self-declarations and auditor’s / accountant’s certificates on random basis and in the case of complaints.
- 4.6.9.3** False declarations will be in breach of the Code of Integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.
- 4.6.9.4** A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this tender for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities.

APPENDIX-D

5 DESCRIPTION STORES AND TECHNICAL SPECIFICATIONS

Description/specifications, Material Code, Quantity of Items.

Sr. No	Description	Qty.	Specification No.
1.	SITC of Upgradation of Compression chain, Monitoring and Power Supply system of C-band Earth Station at Pitampura, Delhi.	As detailed in the BOM (Annexure I) part of technical specification (Specification no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026*)	Specification no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026*

* Copy Enclosed

Note: -

1. Delivery instruction:

- a) **Delivery Period:** i. Four months - as per Clause 8.5 of Specification no. SATD/ Compression_PowerSupply_Pitampura_Delhi/ May-26 Dated 21/05/2026
b) **Consignee:** Earth Station Pitampura Delhi.

2. Taxes:

1. All taxes as applicable must be quoted and shown separately.
2. Bidder should quote the prices of stores and all applicable taxes viz. Excise Duty, Custom Duty, all applicable Cesses, Goods and Service Tax etc., should be shown separately in the price bid. Supplier should submit their claim for payment in invoice having GSTIN number of the supplier and also the respective consignee indicating separately amount of applicable taxes etc. to enable Prasar Bharati to avail GST Input tax Credit (ITC) on Goods and Services.

APPENDIX-E

6 STATE-WISE GSTINS OF DOORDARSHAN		
S.No.	State	GSTIN
1	ANDAMAN AND NICOBAR ISLANDS	35AAAJP0288R1ZI
2	ANDHRA PRADESH	37AAAJP0288R2ZD
3	ARUNACHAL PRADESH	12AAAJP0288R1ZQ
4	ASSAM	18AAAJP0288R2ZD
5	BIHAR	10AAAJP0288R1ZU
6	CHANDIGARH	04AAAJP0288R1ZN
7	CHATTISGARH	22AAAJP0288R1ZP
8	DAMAN AND DIU	25AAAJP0288R1ZJ
9	DELHI	07AAAJP0288R1ZH
10	GOA	30AAAJP0288R1ZS
11	GUJARAT	24AAAJP0288R1ZL
12	HARYANA	06AAAJP0288RIZJ
13	HIMACHAL PRADESH	02AAAJP0288R2ZQ
14	JAMMU AND KASHMIR	01AAAJP0288R1ZT
15	JHARKHAND	20AAAJP0288R2ZS
16	KARNATAKA	29AAAJP0288R3Z9
17	KERALA	32AAAJP0288R5ZK
18	LAKSHADWEEP ISLANDS	NOT APPLICABLE
19	MADHYA PRADESH	23AAAJP0288R1ZN
20	MAHARASHTRA	27AAAJP0288R1ZF
21	MANIPUR	14AAAJP0288R2ZL
22	MEGHALAYA	17AAAJP0288R2ZF
23	MIZORAM	15AAAJP0288R2ZJ
24	NAGALAND	13AAAJP0288R1ZO
25	ODISHA	21AAAJP0288R2ZQ
26	PONDICHERRY	34AAAJP0288R2ZJ
27	PUNJAB	03AAAJP0288R2ZO
28	RAJASTHAN	08AAAJP0288R4ZC
29	SIKKIM	11AAAJP0288R2ZR
30	TAMIL NADU	33AAAJP0288R2ZL
31	TELANGANA	36AAAJP0288R2ZF
32	TRIPURA	16AAAJP0288R3ZG
33	UTTAR PRADESH	09AAAJP0288R1ZD
34	UTTARAKHAND	05AAAJP0288R1ZL
35	WEST BENGAL	19AAAJP0288R2ZB

Prasar Bharati
(India's Public Service Broadcaster)
DIRECTORATE GENERAL: DOORDARSHAN

**Specifications for SITC of
Upgradation of Compression chain, Monitoring and Power supply system of C-band
Earth Station, Pitampura Delhi**

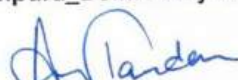
Specification No.: SATD/ Compression_Monitoring_PowerSupply_Pitampura_Delhi / May-26

Dated: 21/05/2026

SATD/ Compression_Monitoring_PowerSupply_Pitampura_Delhi / May-26


Himanshu Goel
Dy. Director General (E)
DG : Doordarshan
New Delhi-110001


शैलेश कुमार कानौजे / SHAILESH KUMAR KANAUJE
उप महानिदेशक / Deputy Director General


अमित टंडन
AMIT TANDON
उप महानिदेशक (अभि.)
Deputy Director General


D R JATAV
Deputy Director (Engineering)
CPC Khel Gaon, New Delhi-49

Specifications for SITC of Upgradation of Compression chain, Monitoring and Power Supply system, of C-band Earth Station, Pitampura Delhi

1. Introduction

This project envisages Supply, Installation, Testing & Commissioning (SITC) for Upgradation of Compression Chain, Monitoring, and Power supply system, of C-Band Earth Station, Pitampura Delhi. The Configuration of major equipment for the proposed Upgradation and Replacement of C Band Earth Station Pitampura is as below:

S. No	Configuration of Equipment	Uplink Standard	Proposed Configuration of Equipment
1.	Demodulator (IRD)	HDTV, one step downward SD is also available	IP-Demodulator Chassis should be capable to receive total of 04 nos. of RF inputs (in (1+1) configuration having 16 nos. HDTV services through IP output.
2.	Encoder Chassis	HDTV, one step downward SD is also available	Encoder chassis capable to encode 16 nos. of HD TV and 08 Radio services signals (1+1 redundant chassis)
3.	IP Encapsulator cum Mux	HDTV, one step downward SD is also available	(1+1) Redundant configuration
4.	Network Management System (NMS) of Compression System	-	Master+ Slave configuration or Cluster configuration with 03 nos. of Client Licenses
5.	Digital Satellite Modulators in (1+1) mode	DVB-S and DVB-S2	(1+1) Redundant configuration
6.	Firewall system		
7.	Monitoring System consisting of: • L band IRD • A/V Monitors • Waveform Monitor • Multi viewer • Demodulator • Video logger	HDTV, one step downward SD is also available	Monitoring System

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8.	Power Supply System consisting of: • 2x40KVA UPS with LiFePO4 batteries • Incoming and output Power Panels, switches and Bus Bars as required	-	Power Supply System
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The proposed project shall provide Compression System, is proposed of have multiplexed output consisting of HDTV channels (in MPEG-2/MPEG-4 format) along with SDTV channels and 08 Radio Channels to be provided for up-linking in DVB-S/DVB-S2 standard having robust Monitoring System and Power Supply system for Pitampura Earth Station.

2. Scope of Work

The scope of the work at Digital Earth Station at **Pitampura** (unless otherwise specified) on turnkey basis shall include the following but not limited to (refer drawing no. 1 to 11). All the concerned equipment shall be capable to take HDTV channels (and SDTV channels, wherever applicable) without any limitation or requiring any upgradation by way of hardware or software.

- 2.1 Doordarshan is in the process of implementing DVB-Subtitling, Audio description, EPG, closed captioning etc. services in future. Hence, the equipment offered by the bidder shall be capable to carry these services without any limitation and without any need of upgradation by the way of hardware, software and their license.
- 2.2 Bidder shall supply, install, test and commission (SITC) 1 set of L Band Router including minimum 8 L-Band Input & 32 Output ports, dual redundant power supply units and accessories (refer drawing no.1).
- 2.3 Bidder shall supply, install, test and commission (SITC) IRDs and Demodulator in the desired configuration for a hybrid mix of HDTV and SDTV channels (refer drawing no.1).
- 2.4 Bidder shall supply, install, test and commission (SITC) compression system having MPEG-2, H.264/MPEG-4 and H.265/HEVC compliant Encoders (N+1) redundant chassis configuration each comprising of a 14 nos. of Encode channels with inputs being **TS Over IP** stream. Each of the offered encoder chassis as above shall also be capable to take upto 16 HDTV/SDTV signals with **TS Over IP** input and compress them to MPEG-2, H.264/MPEG-4 and H.265/HEVC compression format without any limitation or requiring upgradation /down gradation by way of hardware and software (refer drawing no. 2).
- 2.5 Bidder shall supply, install, test and commission (SITC) one set of IP Encapsulator cum MUX in (1+1) configuration and shall be used for transmission of transport stream (refer drawing no. 2).
- 2.6 NMS as well as Statmux shall also be implemented for the system.

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- 2.7 Bidder shall execute the SITC of the Network Management System (NMS) for Compression system. The NMS system shall be offered either in Master+ Slave configuration OR in a Cluster configuration comprising of three Clients. The NMS system shall be implemented with 2 nos. of 48 port IP data Network Switches with 3 nos. of 24 port IP Network Switches and 2/3 nos (as per solution) . of client computers with accessories to control and monitor the transport stream. Compression Network Management System (NMS) shall control and monitor all compression equipment (i.e. Encoders, Multiplexers, the 16x16 HD-SDI Router, IP data Switches etc.) and monitoring of demodulator of the proposed Compression system (Refer drawing no. 1 & 2).
- 2.8 Bidder shall supply, install, test and commission (SITC) one set of 48 port IP data switch in (1+1) configuration. Each set of IP data switch in (1+1) configuration shall be used for feeding IP input (Audio/Video Content) to the following (a) Encoders of compression system and (b) Input & Confidence Monitoring system (refer drawing no. 1).
- 2.9 Bidder shall supply, install, test and commission (SITC) one set of 48 port IP data switch in (1+1) configuration. The offered IP data switches in (1+1) configuration shall be configured with the required VLANs, viz., Management / SNMP VLAN, Encoder TS/IP Output VLAN, Statistical Multiplexer Core VLAN, DVB-S2 Modulator Transport VLAN, Contribution SRT Inputs VLAN, Monitoring / Probing VLAN, Multi-viewer VLAN, Logging / Recording VLAN, Timing / PTP VLAN and Internet Access VLAN, as depicted in the drawings.
- 2.10 The offered IP data switches shall be used to feed the IP output of encoders (Audio/Video/data Content) to the (1+1) IP Encapsulator cum MUX systems (refer drawing no. 2).
- 2.11 The IP data switches shall feed the IP output of IRDs to Multi-viewers.
- 2.12 The bidder shall supply, install, test & commission (SITC) 1 set of 16x16 HD-SDI compatible router with dual redundant power supply, 2 nos. of 17" HD Monitors, 08 channel Audio Monitor (embedded Audio), HD Waveform Monitor, Ampli-speaker and 16 channel IRDs (having IP as well as L Band Input) (refer drawing no. 4) for confidence monitoring.
- 2.13 Bidder shall supply, install, test & commission (SITC) 2 sets of Multi-viewer display systems.
- 2.14 One of 20 input Multi-viewer shall monitor shall monitor all the IP Input sources including SRT, IP and Radio services. The monitoring output of this multiviewer shall be provided two nos. of 55" HD LCD panel display monitors with back-lit LED based display system for 24x7 monitoring.
- 2.15 Similarly, the second identical unit of the Multi-viewer system shall be used for downlink monitoring of the TV and radio services being uplinked from the Earth-station. The L-band input signal for the same shall be made available thru 1.2 M PDA

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and Demodulators. The monitoring output of this multi-viewer shall be provided to another set of 55" HD LCD panel display monitors with back-lit LED based display system for 24x7 monitoring.

- 2.16 Each set of Multi Viewer display system shall provide 02 outputs to display panels (TV sets) to accommodate all the SDTV, HDTV and Radio Services (refer drawing no. 4).
- 2.17 A 20 Channel Video logger system for monitoring of input sources and /or C band downlink signals shall be provided as part of the monitoring system. The logger system shall have the provision of off-air recording of atleast 20 Channels configurable to HDTV / SDTV channels each having 04 nos. of stereo audio channels.
- 2.18 Bidder shall supply, install, test & commission (SITC) 1 set of 42 RU, 19", 1000 mm (depth) equipment ventilated racks for installation of all offered equipment as per BOM. At least 02 nos. of equipment racks shall be supplied for housing the entire compression & monitoring chain. All the racks are to be provided with dual input single phase MDUs.
- 2.19 Bidder shall be required to supply, install, test & commission (SITC) cable trays on top of all equipment racks. The bidder shall also carry out wiring and labeling of all interconnecting cables (Audio/video, power supply, control, data, earthing, sensor cables etc) as per approved layout of all equipment. The inter connecting cables shall be laid on cable tray and routed from top of racks as no false flooring is proposed in the compression/monitoring room/s. Audio/Video cables, SDI, IP control & data cable should be of different colour and fitted with colour coded ferrule for ease of identification in equipment racks (refer drawing no. 1-4).
- 2.20 Bidder shall supply, install, test & commission (SITC) minimum SIX sets of earth pits (2 nos. for UPS, 2 nos. each for the Input and baseband System). All earth pits (in pairs) shall be extended upto 03 sets of wall mounted earth terminals and connected to the intended equipment chain in the Compression room. All electrical equipment and racks shall be directly connected at two points (without loop formation) to Earth Terminals with insulated multi strand copper wire (refer drawing no.7-8-9).
- 2.21 Bidder shall supply, install, test & commission (SITC) Power supply system includes 2x40 KVA UPS operating in (1+1) redundant, parallel load sharing mode with minimum 60 minutes LiFePO4 Battery Bank for each UPS system in power supply room (refer drawing no. 6, 7 & 8).
- 2.22 The Power Supply System has to operate in conjunction with the Existing LT Panel of Mains/DG AMF, 3Ø LT Panel to provide back-up power protection, and power distribution (and also power conditioning) for the critical load.
- 2.23 The bidder shall supply, install, test & commission (SITC) Power Distribution Panel (PDP) with Suitable rating copper Power Supply Cables and lugs for interconnection.

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However, it is advisable for the bidders to visit the site for their assessment of existing facilities before bidding (refer drawing no. 7).

- 2.24 Bidder shall execute SITC of the Sub Distribution Boards (SDBs) duly fitted with requisite no. of industrial type MCBs in the Compression room and in UPS Room with Suitable rating copper Power Supply Cables and lugs for interconnection (refer drawing no. 8).
- 2.25 Bidder shall execute the SITC of sensors including the Thermometers and Hygrometers. The sensors shall provide IP output for the monitoring of temperature and humidity of each rack through a remote monitoring system(refer drawing no. 8).
- 2.26 Bidder shall also provide required furniture for installation of various monitoring equipment in monitoring and control area.
- 2.27 The bidder is required to appropriately partition the monitoring and equipment area and that of the UPS and battery area. This should be in Glass and aluminum for proper visibility and at the same time segregation.
- 2.28 One of the existing window in the existing UPS area is to be converted to exit door for fire safety norms.
- 2.29 The existing Isolation transformer shall be removed from the circuit and the area cleared shall house the UPS and Battery Bank in the new installation.

3. Work Experience for Vendor and OEM:

3.1 Work Experience for Selection of the vendor:-

- 3.1.1 An OEM must have a local office OR authorized representative, OR dealer in India for after-sales service support. The authorized representative of the OEM shall be responsible for obligations such as the guarantee/warranty and after-sales service support, in line with the terms of the tender..
- 3.1.2 The Bidders shall have to meet the following Work experience:

Work Experience- (Self - certified with relevant documents*)-	One Similar work** of minimum value of 80% of estimated cost of the project, or
	Two Similar works** each of minimum value of 60% of the estimated cost of project, or
	Three Similar works** each of minimum value of 40% of the estimated cost of project.

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a) *Self-certified Relevant documents shall be provided along with the bid including the relevant copies of work order/orders clearly mentioning (a) the cost of the project/projects and (b) Receipt Certificate/successful completion certificate/Factory dispatch document/Delivery Challan/Copy of Invoice of the project/projects to various organizations to establish the eligibility to participate in the tender.

b) **Similar works are defined based on scope of the work, i.e. works including SITC or services of Earth Station/Teleport for DTH/Digital Earth Station/ DTH System/Compression System (MCPC)/DTT/DVB-C/VSAT/DSNG/Broadcast Equipment (i.e. as a standalone/or a Part thereof or a combination of these works) in any time during the past ten financial years during the period 2015-2016 to 2025-2026. Similar works that will be counted as experience shall include the works that may have been executed with any Central and State Government agency, PSUs, Private organizations. Bidder shall provide copies along with a list of all such self-certified relevant documents pertaining to such work experience along with the cost of each project (in INR) as executed by the bidder in the proforma available at Annexure-VI to Appendix-D.

3.2 In addition to the above technical eligibility criteria, the bidder shall be required to submit documents pertaining to the Commercial and Financial eligibility criteria including a) company existence, b) Annual turnover/Net worth, c) Positive net worth/Profitability, d) Non-Blacklisting certificate, e) ISO certification (If applicable), f) GFR restrictions/Norms (if applicable), g) PMA and h) relaxation for Start-up as mentioned in the Appendix A, Appendix B & Appendix C of the bid document.

3.3 **For Consortium/Joint Venture (If applicable):** In case of Consortium/Joint Venture, Vender/bidder shall follow the instructions provided at Appendix-A of the bid document.

4. Turnkey Implementation and Commissioning: -The complete project will consist of Supply, Installation, Testing and commissioning (SITC) of the signal receive setup, the compression chain, the monitoring system and the Power Supply system at C-Band Earth Station Pitampura Delhi.

4.1 Input Receive System:

4.1.1 Bidder shall test and integrate the supplied RF Patch panel in circuit as per the requirements of the project. The bidder shall lay the required cables and duly provide and fix the matching connectors.

4.1.2 The output from the RF patch panel shall be supplied to the new RF Router. The existing Patch panel of receive PDA shall be de-commissioned.

4.1.3 The L-Band signal from the existing receive PDAs at the Consignee site shall be connected to the new 8x32 L band Router. The output of the L Band router shall be supplied to the input ports of all the IRDs or Demodulator (requiring less than 20m length for any cable).

4.1.4 Bidder shall also provide assorted length of RF cables with matching connectors to connect as per site requirement to decode all required channels as per DRG No. 1.

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- 4.1.5 The L-band output will be supplied to the IRDs. IP output of all the IRDs will be supplied to encoders (for encoding), Multi-viewers, SDI output IRD (for Monitoring) thru (1+1) redundant LAN switches.
- 4.1.6 Bidder shall carry out the networking among IRDs, Demodulator, the 48 port IP data switches & the 48 port IP network switches, all the Encoder chassis, the IP Encapsulator chassis, Client PCs and the Modulators using high quality Ethernet cables (duly fitted with matching connectors). Further, Ethernet cables shall also be laid, integrated and tested for SNMP, monitoring and other required activities in the Earth Station.

4.2 Compression System:

- 4.2.1 The project envisages supply installation and integration of the (1+1) redundant encoder chassis. The number of encodes in the redundant chassis shall be populated with the same number of encodes as in the main encoder chassis as per DRG No. 2.
- 4.2.2 The control and monitoring will be done from the Control Clients of NMS system or the site PC (if required).
- 4.2.3 Bidder shall lay Ethernet cables and integrate the IP network switches with the NMS server as per DRG No. 2.
- 4.2.4 For Integration of equipment, Video Cables, Audio Cables, HDMI cables and CAT-6 etc. for audio/Video/data/networking shall be provided by the bidder. The colour of Audio/Video cables, IP control & data cables should be different and fitted with colour coded ferrule for ease of identification in equipment racks.
- 4.2.5 The system must offer an intuitive user interface and remote configuration of all modules, simplifying system deployment and reducing operational routines.
- 4.2.6 IP management and IP data of all the equipment of earth station shall be configured in such a way as to allow the availability of sufficient number of additional IP addresses for future Addition/ Expansion/ Integration of equipment without requiring any changes in the network architecture.

4.3 Monitoring (Input, Downlink and Confidence) System:

- 4.3.1 Bidder shall lay, integrate and test video cables with matching connectors from the required input and output ports of the 16x16 HD-SDI routers with redundant power, the required 24x2 HD-SDI Patch Panel, 12 port IP Patch Panel, 8 port RF Patch Panel, IRDs or Demodulator (L Band, and IP input), 17 inch (nominal) color monitor, 08 channel Audio monitor (embedded Audio), Ampli-speaker etc. for confidence monitoring setup as per DRG No. 3. There should be provision for monitoring the following:

- a. **Monitoring of the source Video signals:** The source signals for the Earth Station are available through various modes, viz, through downlink of SCPC/MCPC signals from other earth-stations, IP Stream thru point-to-point IP Links and IP Streams through internet.

The proposed monitoring system shall establish the Monitoring to monitor these signals.

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- (i) These source Video signals will be decoded by the IRDs. The IP output of IRDs shall be supplied to (1+1) Data Switches. The monitoring of these signals shall be done thru Multi-viewer which itself is connected to the LAN Switches. Multi-viewer output shall be monitored at 55" Professional LCD Monitor through Display System as per DRG No. 1 & 4.
 - (ii) The above mechanism shall be used to monitor the output streams of the Encoder and the output of the Mux/ IP encapsulator.
 - b. **Monitoring of downlink signals of the Earth Station:** A Second IP Multi-viewer will be used to establish the monitoring system for the downlink signals of Pitampura Earth-Station. This will be achieved thru 02 nos. of 1.2 metre PDAs and 02 Nos. of IRDs exclusively reserved of the purpose.
 - c. **Confidence Monitoring:** Two IRDs with dual SDI Output ports will be supplied by the bidder to provide the monitoring of individual Video Signal in SDI format. The SDI output of these IRDs will be supplied to a 16x16 SDI Router to distribute the outputs to the monitoring devices including the 17 inch (nominal) Video monitor, 08 Channel Audio/Video Monitor, WFM and Ampli-speaker as per DRG No. 1 & 3.
- 4.3.2 All the electronic equipment should have necessary control interfaces for remote monitoring and control with suitable GUI. The associated software for logging, archiving, monitoring and controlling shall also be supplied and installed as per DRG No. 2. Bidder shall make provision for monitoring of Input/Source signals received from C-band receive PDA through Demodulators. The Multi-viewer shall accept input sources i.e. MPEG-2 TS streams compressed in MPEG-2, MPEG-4 & HEVC compression formats.
- 4.3.3 The Multi-viewer system shall process the Audio data stream upto Dolby Digital (AC-3) 5.1 standard and also the embedded metadata available in the Video signal. The multi-viewer system should be able to display relevant monitoring information regarding the embedded Audio and embedded metadata for each of the displayed Radio/TV streams as per DRG No. 1 & 4).
- 4.3.4 Bidder shall make provision for monitoring of Downlink signals received from 1.2 meter C-band receive PDAs.
- 4.3.5 Bidder shall supply, install, test & commission (SITC), one No. of **20 channel Video Logger**.
- 4.3.6 The demodulated MPEG-2 TS over IP output shall be supplied to a 20 Channel Video Logger.
- 4.3.7 The input signal shall be MPEG-2 TS over IP compressed in MPEG-2 or MPEG-4 or HEVC format having DVB-S & DVB-S2 standard as the case may be.
- 4.3.8 Bidder shall provide four sets of 55" LED display system with suitable TV Trolley or mounting furniture.
- 4.3.9 **Monitoring of ambient temperature & humidity in the Compression room:** Bidder shall lay, integrate and test cables for Temperature and humidity monitoring facility of each equipment rack through remote computer and 24 port Network Switch as per DRG No. 8.
- 4.4 Power Supply System UPS, PDP, SDB, MDU):**

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- 4.4.1 Bidder shall supply, install, test & commission (SITC) 2x40 KVA UPS operating in (1+1) redundant, parallel load sharing mode with 60 minutes LiFePO4 Battery Bank back- up for each UPS with internal isolation transformer of min. capacity 40 KVA at the output of each UPS in the power supply room.
- 4.4.2 Bidder shall supply, install, test & commission (SITC) Power Distribution Panel (PDP) fitted with industrial MCCB, MCBs, Change-over switch, Busbar with Voltage and Current metering and indication in power supply room which caters the load of all equipment as per DRG No. 7.
- 4.4.3 Bidder shall supply, install, test & commission (SITC) the Sub Distribution Boards (SDBs) fitted with industrial MCBs in compression room & Porta-Cabin which caters to the load of all equipment as per DRG No. 7.
- 4.4.4 Bidder shall supply, install, test & commission (SITC) minimum two nos. MDUs in each rack for providing redundant power supply to equipment. Each MDU should have dual input single phase power supply (over Power-con connectors or similar), inbuilt or external static switch (for single phase automatic power transfer) and output on female IEC ports (or similar) as per DRG No. 7.
- 4.4.5 Bidder shall supply, install, test & commission (SITC) Thermometers and Hygrometers (with measurements available on IP output) in each rack for monitoring of temperature and humidity of each rack on the operator's monitoring desk through remote monitoring system as per DRG No. 7.
- 4.4.6 Bidder shall assess the electrical load of equipment installed in Power Supply Room, Compression room and Porta-cabin, required length & rating of power supply cables. Bidder shall provide assorted length of copper power supply cables with minimum 50 percent (nominal) load margin for interconnecting/integrating equipment as mentioned in point no 4.6.2.
- 4.4.7 Bidder shall supply, install, test & commission (SITC) minimum SIX sets of earth pits. All earth pits shall be extended upto earth terminals mounted on the wall with insulated copper strip (75 Sq.mm minimum) in their respective equipment room i.e. Compression room. All electrical equipment and racks shall be directly connected at two points (without loop formation) to Earth Terminals with insulated multi strand copper wire (25 sq mm minimum) with copper lugs at both ends as per DRG No. 5,6 & 7.
- 4.4.8 Bidder shall affix permanently in a conspicuous position a danger notice in Hindi or English adequate number of Danger/Caution board on all the PDP/SDB etc. to effectively warn individuals of high-voltage electrical hazards and promote safety.
- 4.4.9 The offer shall include supply, installation, testing and commissioning (SITC) of the setup, complete in all respects. A suggestive block schematic is provided to give a general idea about the intended configuration. A complete schematic of actually proposed implementation including power supply system should be submitted by the bidder along with the quote.
- 4.5 System Requirements:**
- 4.5.1 **Completeness of the system:** The bidder must ensure completeness of the envisaged system. The envisaged C band Earth Station set up should be completed and fully wired for all the equipment fitted in 19" standard racks. The offered system must have enough flexibility in adapting the changing requirements from the technical and operational point

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- of view. The bidder should submit detailed schematics and layouts for proposed solution based on the offered equipment along with the offer.
- 4.5.2 In order to ensure the completeness of the scope of system, any additional equipment/accessories/Cables/Patch Panels etc., which bidder feels necessary to complete the configuration should also be quoted. However, in such case they should provide proper justification for the additional equipment required.
- 4.5.3 **Single Solution:** Bidder shall submit only one solution (Single BOM) for the offered system. Bid with multiple options against any requirement is liable to be rejected.
- 4.5.4 Each offer should be complete in all respect. Incomplete & non-compliant offers will be rejected summarily, without making any references to bidder.
- 4.5.5 Cross reference in respect of supporting documents, should be given with proper page number and volume no. etc. If required Doordarshan may also ask for any other supporting document to ascertain the claim of bidder or the OEM.
- 4.5.6 **Software and Licensing:** All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying any end of life of the software. Software upgrades within five years of installation i.e. warranty period should be supplied free of cost.
- 4.5.7 The bidders may visit the site for their assessment of existing facilities and requirements before submission of the bid. Bidders desiring to visit the site must submit the request to Doordarshan one week in advance with the details of the persons for facilitating the visit.
- 4.5.8 Cost of any other work, consultancy and material required for completing the installation & commissioning of the compression, monitoring and Power Supply system should be taken into account and clearly mentioned while submitting the tender.
- 4.5.9 The offer should clearly specify the list of equipment hardware, interfaces, cables etc. and associated software provided with the Remote Computer System to access operations, control and monitoring of different components of the chain.
- 4.5.10 To avoid any delay due to inter-dependent activities like site readiness, providing power supply etc., the bidder should submit time frame for completing the activities up to the commissioning of the set-up on a PERT chart starting from date of issue of Purchase Order (P.O.) (i.e. DD/MM/YYYY)+ along with the bid.
- 4.5.11 Each of the offered equipments and their accessories including software should be of reputed make and the quoted model should be high class, high MTBF, field proven and in use by leading broadcasters/ organizations.\
- 4.5.12 **Demo:** Bidder may be required to give a demo of the offered solution or a part thereof, at a notice of a maximum of 15 days asked as part of technical evaluation of tender. The bidder may be asked to demonstrate the features of equipment offered including the statistical multiplexing in MPEG-2, MPEG-4/HEVC compression format for 32 SDTV/16 HDTV channels in full resolution per transport stream. However, giving a demo will not bestow any right of acceptance of the bid.
- 4.5.13 If required, bidder shall give a presentation to explain the technical offer within one week from the date of issue of letter, as part of technical evaluation exercise.
- 4.5.14 All interconnecting material including cables and connectors shall be provided by the successful bidder to complete the project. The bidder will be required to use only high

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quality HD-SDI video and audio cables, Data cables, Power Supply Cables, connectors and other accessories from reputed manufacturers. Video cable (with matching connectors) and Audio cable (with matching XLR connectors) of Suitable length and appropriate specification should be used for rack wiring as well as long distance applications.

4.5.15 The routing of wiring between racks shall to be done from the Top of the racks.

4.5.16 The bidder should specify the hardware limitation if any.

4.5.17 The system must offer an intuitive user interface as well as remote configuration of all modules, simplifying system deployment and reducing operational routines.

4.5.18 The layout plan of equipment of Input receive system, Compression system and Monitoring system, & Power Supply system, racks, electrical diagram, PDP, SDB layout and other drawings need to be submitted for approval of Doordarshan before execution of SITC work at site.

4.5.19 A suggestive block schematic is provided in Annexure –VII of Appendix-D (DRG No. 1 to 11) to explain the full scope of the work and give a general idea about the intended configuration. A complete schematic of actually proposed implementation should be supplied along with the technical bid. Offered topography may be different than the suggestive block diagram but it should meet the project objectives.

4.5.20 The successful bidder will be required to provide a laminated printed display of the Final Technical Block diagram and detailed Line diagrams (in color) of adequate (A1 or bigger) size for all the modules of the final solution in the facility. A soft editable copy of the same Technical Block diagram and detailed Line diagrams (in color) shall also be provided.

5. Technical Specification of Major Equipment:

5.1 Input Receive System

The L band input signal will be received from existing Receive PDA Antenna thru the L band 16 port Patch Panel and supplied to the L band Router. The input receive system will consist of (a) 8x32 L band Router and (b) Demodulator/IRDs for SD and HD channels.

5.1.1 Technical Specifications of the 08x32 L Band Router:

- (i) L band signal shall be received through RF cable from LNBC of C band receive antenna and connected to L band Router. The output of L band router shall be connected to IRDs or Demodulators.
- (ii) Router should have Full fan out (splitting) facility such that it can be configured to route any one of the 08 input signals to all the 32 nos. of outputs.
- (iii) It should have dual redundant Power supply unit.
- (iv) The unit shall be able to provide DC power to LNBCs either through inbuilt Power Supply or Power Supply Unit approved by the OEM of the offered L band router.
- (v) Configuration & Control of the L-band router (LBR) should be available either through an OEM supplied NMS system or through a Web Browser interface.

(vi) Detailed Technical Specifications:

S.	Parameter	Specification
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No.		
1	Operating frequency	850 to 2150 MHz
2	Isolation	
a	Input to input	60dB
b	Output to output	60 dB
c	Input to output	50 dB
3	Return loss	
a	Input return loss	10 dB
b	Output return loss	10 dB
4	Input and output RF Connector	Type "F/BNC"
5	Impedance	75 ohm
6	Remote control	Ethernet RJ45 and Web interface

5.1.2 Technical Specifications of the Demodulator/IRD -

- (i) The professional Demodulator should receive the L band input and give MPEG-2 TS over IP output with multiple services filtering facility and bulk decryption.
- (ii) Demod should be able to carry out multiple services filtering on IP output port.
- (iii) It should have provision to enter or edit all the parameters for perfect reception of the signals through Web browser.
- (iv) For DVB-S mode of operation, the web browser interface shall provide the BER & the signal level or the C/N & the C/N margin or the Eb/No & the Link Margin.
- (v) For DVB-S2 mode of operation the web browser interface shall provide read out of the PER & the signal level or the C/N & the C/N margin or the Es/No & the Link Margin.
- (vi) The device shall have the feature to provide bulk decryption of TV signals for BISS mode 1 and BISS-E encryption.
- (vii) There should be at least one vacant slot (CI slot) of conditional Access System (CAS) for descrambling all MPEG-2, H.264/MPEG 4 & H.265/HEVC encoded channel and DVB-S & DVB S2 compliant services. Each CI slot should be integrated/configured with atleast one L band input port.
- (viii) Demod should be able to store at least 10 device configurations in memory. It should be possible to monitor the Demod through NMS of compression system.
- (ix) Demod should be able to generate and save log for analysis and warning through NMS of compression system.
- (x) Demod should have facility to pass ancillary data like closed captioning, EIA 608/708, DVB-Teletext, DVB- subtitle, DPI SCTE-35 etc.
- (xi) Bidder may offer server-based demodulator in place of Hardware based demodulator. Each server chassis may accommodate at least four RF ports per demod. The server should be 1 RU short depth.

(xii) Tabulated RF Parameter Specifications for the Demodulator:

S. No.	Parameters	Specification
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1	Input Frequency Range	950 - 2150 MHz
2	No. of Inputs	4 (min.)
3	Tuning Step Size	125 kHz, Max.
4	Input Impedance	75 Ohms
5	Input Connector	F-Type female
6	Input Power Range	-30 to -60 dBm per carrier
7	De-Modulation Method	DVB-S QPSK, DVB-S2 QPSK and 8PSK
8	Variable Symbol Rates	1.0 to 40 M Symbol /sec for DVB-S 1.0 to 40 M Symbol /sec for DVB-S2
9	Convolution Inner FEC selectable	R= 1/2, 2/3, 3/4, 5/6, 7/8 (For DVB-S, QPSK), R=1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 (For DVB-S2, QPSK) R= 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 (For DVB-S2, 8PSK)

(xiii) **LNB Power Supply & Control:**

S. No.	Parameters	Specification
1	LNB Voltage	+ 13 V (Vertical) and 18 V (Horz.) polarizations switching or 19 V fixed.
2	Power Consumption	300 mA.

(xiv) **IP Input (TS & Data) and IP Output (TS & Data) specification**

S. No.	Parameters	Specification
A	IP Input Format	MPEG-2 TS over IP (MPTS and SPTS) on Ethernet
B	IP Output Format	MPEG-2 TS over IP on Ethernet with multiple services filtering facility and decryption
C	Management Port	Minimum one number of RJ 45 Bi-directional port.
D	Data Connectivity	Minimum two nos. of RJ 45 Bi-directional ports.
1	Mount	19" Rack Mount, short depth

5.2 Digital Compression System

- i) The input signal from Integrated Receivers/Decoders (IRDs) shall be supplied to the Encoders in MPEG 2 TS over IP format via an IP Switch. The IRDs might be receiving the signal over L-band ports or IP signals.
- ii) All the compression equipment should preferably be from one OEM / company or approved by OEM of compression system, for ease of operation, networking and full automation. The system management shall be through the Network Management system (NMS). The compression system shall comprise basically a minimum of the following equipment:
 - a) Chassis consisting of multiple MPEG-2, MPEG-4 SDTV and MPEG-4 & HEVC HDTV Video Encoders
 - b) IP Data Switches

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- c) IP Encapsulator cum Multiplexers for Statistical Multiplexing
- d) TS Redundancy Switches for Encoders Input Redundancy
- e) TS Redundancy Switches for Stat MUX Outputs
- f) Compression Control system Computer (Hardware and Software) i.e. Network Management System (NMS)
- iii) All the Compression equipment like Encoders and IP Encapsulator cum Multiplexers, IP Switches, TS Redundancy Switches etc. shall be compatible with IP based interface.
- iv) The entire Compression system including the Encoders and the IP Encapsulator cum Multiplexers should have BISS-1 and BISS-E encryption facility to implement/ disable the encryption for each of the TV/ Radio services.
- v) Each of the electronic equipment should be offered with a software suite to facilitate device control through a suitable GUI on a control PC. The equipment should be provided with RJ45 interfaces for management/control. The offered OEM approved software suite should have provision for remote monitoring and control. It should also have associated software for logging and archiving of events and activities. The GUI of the offered equipment should be fast/ responsive and facilitate convenient control of the equipment.

5.2.1 Compression Configuration:

The offered Hardware should have sufficient compute/ RAM and other resources to avoid any degradation in performance even with fully loaded job assignment. The offered hardware should not hang and should not require restarting of job or a forced re-boot at any time during operations to salvage the job. CPU loading should not exceed 85 percent at any time.

A. Configuration of Encoding System:

All the encoder chassis of compression system shall have the facility of decoding the MPEG-2, H.264, MPEG-4-AVC and H.265, HEVC Main 10 compressed input signals. All encoder chassis with MPEG-2 TS over IP input shall have capability of simultaneous encoding of minimum 16 HDTV/ SDTV channels in H.264/MPEG-4-AVC & H.265/HEVC Main 10 and 08 nos. of Radio channels without any limitation or requiring upgradation/downgrading by way of hardware and software licenses. The encoders may be required to encode any combination of HDTV and SDTV Channels within the above encoding capacity.

B. Features of Encoder

- (i) Each Chassis should be equipped with dual redundant SMPS power supply units.
- (ii) It should also have the preprocessing facility viz; adaptive noise reduction etc. for efficient encoding process.
- (iii) It should have multi-pass encoding.
- (iv) It should have GUI interface for Remote Control.

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- (v) In the event of loss of Video input, the encoder chassis should have the option to auto switch to pre-recorded Image (JPEG/PNG).
- (vi) The encoder shall be MPEG-2, MPEG-4 and HEVC standard compliant without any limitation or upgradation by way of hardware or software licenses.
- (vii) There should be provision for accepting and encoding SDTV input streams each having advanced audio configuration including a) 4 stereo audio with MPEG-1 Layer-II & b) HE AAC v1 & v2 5.1 audio encoding.
- (viii) There should be provision for accepting and encoding HDTV input streams each having a) 4 stereo audio with Dolby Digital (AC-3) 5.1, b) Dolby Digital plus 5.1, c) MPEG-1 Layer-II & d) HE AAC v1 & v2 5.1 making it possible to encode the output audio in either of the following audio formats: a) Dolby Digital (AC-3) 5.1 b) Dolby Digital Plus 5.1 c) down-mix Audio to MPEG-1 Layer-II at any given point of time.
- (ix) The offered Encoders shall also have the facility to encode a minimum of 8 Radio Service received through IP Input streaming.
- (x) There should be in-built loudness control for each encode channel with customizable settings on the interface facilitating a uniform audio level in spite of changes from different input feeds and programs. The loudness control feature should meet the ITU-BS-1770-2/ ITU-BS-1770-3 standard for loudness control.
- (xi) The Encoder shall be capable to pass through the closed captioning data. The encoder closed captioning output shall be compliant to the latest standards including the EIA 608/708. The Encoder output shall also be compliant to DVB-subtitling and digital program insertion standard. These features shall be made available without any limitation or upgradation by way of hardware or software licenses etc. for each of the output streams.
- (xii) The Encoder shall pass through the ad insertion protocol, i.e. the SCTE35 insertion metadata inserted via SCTE104 triggers also. These features shall be made available without any limitation or upgradation by way of hardware or software licenses etc. for each of the output streams.
- (xiii) The encoded output of chassis in the MPEG-2 TS over IP format shall be output on Ethernet ports of the Encoder.
- (xiv) Encoder hardware/Server shall also be capable to support RTMP, DASH, HLS encoding/streaming format, so that additional output/s from the encoder can be simultaneously shared on Cloud, if required.

C. IP Transport Stream Input Specifications:

S. No.	Parameters	Specification
1	Type	Gigabit Ethernet
2	MPEG Format	MPEG 2 TS over IP (SPTS & MPTS)
3	Decoding of Video from TS	i) MPEG-2 ii) H.264/MPEG-4-AVC iii) H.265/HEVC Main 10

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4	Decoding of Audio from TS	i) MPEG-1 Layer-II ii) HE AAC V1 & V2 5.1 Audio iii) Dolby Digital AC-3 5.1 Audio iv) Dolby Digital Plus 5.1 E-AC-3 Audio
5	No of Ports dedicated for IP Input source	Minimum two nos. Bi-directional Ethernet ports, configurable in redundant mode

D. IP Streaming Input Specifications:

Each encoder chassis shall have the facility to pull the channel from Cloud/URL. Thereafter, channel may be decoded; and encoded in desired format for multiplexing with external IP Encapsulator cum Multiplexer. Input format of such IP streams is given below:

1. Input Format of Video Service received through IP Streaming				
Stream resolution	Streaming protocols	Video Decoding Standards	Input Stream format	
SD TV & HD TV 480p50,720p50, 1080p25, 1080p50	RTMP, HLS and SRT	h.264 and hevc	MPEG TS	
2. Input Format of Radio Service received through IP Streaming				
Input Format	Profile Number	Streaming Format	Audio Decoding Standard	Type of Audio channels
HLS	I	(i) MPEG-TSi.e. (.TS) (ii) Raw audio format(.aac)	(i) AAC-LC, (ii) HE-AAC V1, (iii)HE-AAC-V2,	Stereo, Mono for AAC-LC, V1 and V2

E. Video compression parameters:

Sl.No.	Parameter	Specification
1	Video Resolutions (PAL)	For SDTV 720 x 576, 544 x 576 and 480 x 576 For HDTV 1920 x 1080, 1440 x 1080
2	Profiles and Levels	i) SD MPEG-2, MP@ML ii) SD H.264/MPEG-4, MP@L3 iii) HD H.264 Main Profile Level 4.0 iv) HD H.264 High Profile Level 4.0 v) HD H.265/HEVC Main 10
3	Video Bit-rate	i) 500 Kbps to 4 Mbit/s for 4:2:0 Profiles of SDTV on

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		MPEG-2 depending on Resolution ii) 3 to 20 Mbit/s for 4:2:0 Profiles of HDTV in MPEG-4 depending upon Resolution iv) 3 to 8 Mbit/s for 4:2:0 Profiles of HDTV in HEVC Depending upon Resolution
4	Temporal Processing	I, B, B, P frames structure to support low delay mode.
5	Coding of Interlaced Video	Adaptive field & frame Processing support
6	Spatial Redundancy	Discrete Cosine Transform (DCT) Reduction
7	Chrominance	4:2:0 Format
8	Aspect Ratio	16:9
9	Type of Encoding	Variable bit rate

F. Audio Compression Parameters:

Sl.No.	Parameter	Specification
1	Audio Encoding Method	i) MPEG-1 layer II ii) HE-AAC (MPEG-4) v1 & v2 5.1 Audio iii) Dolby Digital 5.1 AC-3 audio iv) Dolby Digital Plus 5.1 E-AC-3 audio
2	Data rate	i) 64-192 kbps (MPEG-1, layer II) ii) 32-72 kbps (HE AAC v1 encoding) iii) 16-64 Kbps (HE AAC v2 encoding) iv) 224-640 kbit/s (Dolby Digital 5.1 audio encoding) v) 192-640 kbit/s (Dolby Digital Plus 5.1 audio encoding)

G. IP Transport Stream Output Specification

Sl. No	Parameter	Specification
1	Type	Gigabit Ethernet
2	MPEG Format	MPEG 2 TS over IP
3	No of Ports dedicated for IP Output	Minimum two nos. of bi-directional independent ports and configurable in redundant mode
4	Addressing	Unicast and Multi cast (at a time only one).

H. Control and configuration of Encoder chassis

Sl.	Parameter	Specification
1	Control port	Min. 1 no. 10/100/1000 Base-T Ethernet port for NMS
2	Connector Type	RJ 45

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5.2.2 IP Data Switch:

A. General Features:

- (i) Multicast IP routing and access control list of connected hardware
- (ii) Redundant swappable Power System for protection against power supply failures.
- (iii) IEEE 802.1w Rapid reconfiguration of Spanning Tree, and IEEE802.1s Multiple VLAN instances of spanning Tree.
- (iv) IEEE 802.1x support for dynamic, port-based security, providing user authentication.
- (v) Real-time network fault analysis with easy-to-deploy device specific best-practice templates.
- (vi) The required hardware and software including their licenses shall be provided for a) Multicast IP Routing, b) VLAN configuration and c) GUI of the switch for configuration and Monitoring of IP ports. The bidder shall also provide monitoring and control through Compression NMS.
- (vii) The required Hardware & associated accessories (Cable with Connector) and software including their licenses shall be provided for stacking of the all IP Switches.

B. Technical Specifications:

Sl. No.	Parameter	Specification
A	Performance	
1	Forwarding rate	72 Mpps (Million packets per second) or better (100 MBps)
2	Memory:	
i	DRAM	4 GB (Min)
ii	FLASH	2 GB (Min)
3	Ethernet ports 10/100/1000 (Selectable)	48 (Min)
4	Switching capacity	176 Gbps (Min.)
5	Throughput	72 Mpps (Million packets per second) or better
6	IPv6 support	in software
7	Uplink optics type	4 SFP (Min 10GB per SFP port)
8	CPU	800 MHz (Min)
9	Shared buffer	12 MB (Min)
B	Indicators	
11	Per-port status LEDs	link integrity, disabled, activity, speed, and full-duplex indicators
12	System-status LEDs:	Fan, power and system Indicator

5.2.3 IP Encapsulator cum Multiplexer:

A. Essential Features:

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- i) Each IP Encapsulator cum multiplexer shall be capable of multiplexing a minimum of 12 SDTV services, 04 HDTV services or combination of both SD & HD services + 8 Radio channels with DVB-CSA (V-1 & V-2) and DVB-CAS simulcrypt encryption feature through IP in CBR and/or VBR mode inputs per transport stream.
- ii) It should have the facility for statistical Multiplexing, De-multiplexing and again multiplexing the relevant/required services.
- iii) The radio channels are required to be multiplexed only in CBR.
- iv) The compression system (Either IP Encapsulator cum multiplexer or Encoder) should be able to create independent services as well as a combination of pool of services multiplexed in statistical Mux or CBR for the available MPEG 2, H.264/MPEG 4 and H.265/HEVC compressed streams of SD & HDTV channels.
- v) Each IP Encapsulator should be capable to multiplex both SDTV and HDTV signal simultaneously.
- vi) IP Encapsulator should be capable to accept variable video bit rate Programme Stream and Multiplex multiple streams in a multiple Multiplexing Group i.e. "n x services" and allocate optimum bit rate to the services in the Transport Stream.
- vii) Each IP Encapsulator shall have enabled minimum four independent IP data ports (Bi-directional), one IP port for simulcrypt encryption and four independent ASI output ports, so that IP Encapsulator shall be able to take input stream/signal through IP port for multiplexing the channels and take out multiplexed transport stream through IP on RJ 45 ports and ASI outputs simultaneously.
- viii) Each IP Encapsulator shall also generate upto four independent ASI output transport streams with or without the simulcrypt Encryption (CAS) for transmission with option of generating TS Over IP output transport streams.
- ix) The multiplexer shall be capable of transmission of broadcast data signals along with video and audio.
- x) IP Encapsulator should have DVB compliant for encapsulation of EPG data, DVB-SI/PSI table, NIT table, EMM table, ECM table generated by EPG and DVB-SI/PSI Generator/Server and CAS server in the output of transport streams.
- xi) Each IP Encapsulator cum Multiplexer unit should have Hot swappable dual redundant SMPS Power Supply.

B. Technical Specifications:

S. No.	Parameters	Specification
a)	IP dataPort Specifications	
1	Type	Gigabit Ethernet 802.3z or better
2	No. of Ports for input and output data	i) Minimum four nos. physical independent 1 Gigabit RJ45 ports (Bi-directional) with licenses (2 ports for Input & 2 ports for output configurable). ii) Minimum four nos. physical independent 10 Gigabits SFP port (Bi-directional) with SFP optical device cartridge.

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3	I/O Speed	Min 900 Mbps per port
4	IP Encapsulation	MPEG -2 TS over IP
5	MPEG Format	188 B per TS
6	Addressing	Unicast and Multicast (at a time only one).
7	Ethernet Interface	1000 base T
8	No. of Ports for ancillary data	Min. 2 Nos. physical 1 Gigabit RJ 45 port (Bi-directional)
9	Ethernet Control and Management connector	Min. 1 no RJ 45 for control and management
b) DVB-CSA (V-1 & V2) supported simulcrypt DVB-CAS Feature		
1	IP Port for DVB-CSA V-1 & V-2 supported DVB-CAS Control with required licenses	Minimum one port (RJ-45)
2	No. of DVB-CAS to be simulcrypt	Minimum two CAS
3	Name of CAS to be deployed	Generic Conditional Access System (CAS)
4	IP data port for OTA with required license	Through IP data port or ASI input port
5	Scrambling Feature with required licenses	On all independent output port with each service and ON-Off facility.
6	EMM processing bandwidth	4 Mbps or better
7	ECM processing bandwidth	15 kbps or better per channel

C. Statistical Multiplexing:

- (i) The offered system shall provide Statistical Multiplexing to enable Doordarshan to control the configurations of each channel encoder in order to optimize the bit rate used to encode the video material.
- (ii) The GUI for Statistical Multiplexing shall be responsive and convenient to use.
- (iii) The statistical Multiplexing shall essentially have following features:
 - a. User selectable minimum & maximum bit rates per channel.
 - b. Provision for linear bit rate changeover on frame-by-frame basis as per specified bit rate of each channel.
 - c. There shall be no break in service during change of bit rate of compression equipment and also during transition to redundant IP Encapsulator cum multiplexer. There shall be no requirement of rebooting of the compression equipment for effecting the change in configuration.
 - d. Real time bit rate management for continuous allocation of bandwidth between the encoders shall be implemented using only native hardware and software of encoders and multiplexer i.e., without the use of any additional / external computer hardware or software

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- e. Stat Mux facility should support among all SDTV & HDTV channels with/without the encryption.
- f. Fast response to the variations as per the complicity of the source material.
- g. Enabling of statistical Multiplexing shall not need any change in the hardware or software of the receiving equipment i.e. IRDs/ decoders/ STBs.

D. Implementation of DVB-CSA (V-1 & V-2) supported DVB-CAS, EPG, Video on Demand (VoD), NVoD, Subtitling, Audio descriptor, closed captioning etc.

- a. Services like DVB-CSA (V1 & V-2) supported with simulcrypt DVB-CAS encryption (CAS), Subtitling, Audio descriptor, EPG etc. will be carried by the C Band DTH platform Pitampura.
- b. The equipment offered by the bidder shall be capable of carrying these services without any limitation or requiring upgradation by way of hardware and software.
- c. The offered IP Encapsulator cum multiplexer shall provide NVoD facility with .TS format compliant stream record and playout.
- d. The offered system shall support passthrough of the Audio Descriptor for the visually impaired.

5.2.4 IP Redundancy Switches : 02 Nos.

A. General Features:

2:1 MPEG-2 Transport Stream Redundancy Switch, should support Automatic switch supporting TS input priority (Main/Spare mode) Automatic switch on TS input upon failure (Redundancy mode) Manual switch

B. Essential Features:

- i. The offered IP Redundancy Switch rack mountable in a standard 19" rack frame.
- ii. The offered switch shall handle up to 16 TS Over IP.
- iii. The offered switch should support FEC Correction and generation.
- iv. The offered switch should support Input Delay Compensation.
- v. The offered switch should support Dual Power Supply.
- vi. The offered switch should support UDP/RTP, Multicast, VLAN.
- vii. The offered switch should support TR 101 290 Priority 1/2/3 analysis.
- viii. The offered switch should support Web GUI, NMS for Control and Monitoring.

5.2.5 Compression System Control Computer with Software

A. Compression System Management Functions

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- (a) The compression system control computer shall control the operation, redundancy switching and configuration of all parameters of encoders, IP Encapsulator cum multiplexers, SDI routers,
- (b) (only monitoring control using web GUI) and provide the event logs, alarm logs and fault logs for a minimum of 365 days or configurable to 90/120/180 days subject to limitation of hard disk space.
- (c) NMS (Network Management System)/ AMS (Automatic Management System) offered should be capable to mux 60 TV channels (min) per mux group. However, there should not be any restriction on total number of output streams.
- (d) NMS/AMS of Compression system shall have the facility to configure, control and monitor minimum 60 equipment/elements like IRDs, Demodulator, Encoders, IP Encapsulator cum Mux, SDI Router, IP Switches etc.

B. Salient Features:

The System Control Computer shall be used as a control protocol to configure the various parameters for the statistical multiplexing such as:

- i. To configure encoders for variable Bit Rate Transport Stream. Setting of minimum and maximum limits of data rate for each encoder.
- ii. To configure GOP pattern for frame-by-frame encoding. Encoding should take place at the encoder in real time.
- iii. If the System Control Computer fails or powered down, the whole system should be failure protected so that it still works.
- iv. Facility to store the last statistical Multiplex configuration in the network hardware so that in case of failure of the Compression System Control Computer, the system remains running and continues to statistically multiplex two or more program as per the last good configuration.
- v. There shall also be a facility to configure the encoders for pre-defined Image (PNG/JPEG) on the loss of video input in NMS.
- vi. There shall be facility to create ghost backup of hard disk of NMS computer on USB storage.
- vii. Each set of Network Management System (NMS) shall comprise of (1+1) rack mounted server for 24x7 operation in master and slave configuration or cluster configuration with three client licenses.
- viii. There shall be three client PCs with required licenses and 21 inch or better size display monitors along with each PC for monitoring of NMS system from remote locations.
- ix. These client PCs shall be installed in the Monitoring room, shift in-charge room and HPA Portacabin room. An Ethernet connection required to be provided on the client PC for monitoring in HPA Porta-cabin room.
- x. The Compression Control Computer (NMS) should be capable of controlling and monitoring all parameters of the digital video and audio compression system through suitable hardware interface and user friendly GUI.

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- xi. To facilitate centralized network management operations in future, it should be possible to operate the system remotely via a suitably configured computer and modem over standard dial-up telephone lines or Broadband network. It should be supplied with complete hardware and software to interface all the equipment in the chain for their proper control and monitoring.
- xii. The complete compression NMS software of each set is to be loaded on a single control computer/Server with networking facilities if offered in Master and slab mode, whereas compression NMS software of each set is to be loaded on two control computer/Server with networking facilities in cluster mode.

C. Required Hardware and Software

The compression system control computer shall be based on industry standard, open system hardware and software that will provide a user-friendly GUI to the operator.

S. No.	Parameters	Specification
1	Man Machine Interface	Graphical User Interface (GUI)
2	Operational Features	Based on latest Windows / Linux version: (a) Diagnostic log (b) Transaction log (c) Password privilege system (d) Multi user terminal support
3	Physical Connection to Equipment	Ethernet 10 Base-T/100 Base-T through CAT 6 or better cable
4	Hardware Platform	Supplier to provide full details of the industry standard hardware platform proposed
5	Software	Supplier to provide full details of the industry standard software platform proposed
6	Back up on USB storage	The back-up/ recovery USB storage for all the software are to be provided with proper licensees.
7	No of Equipment/ Element to be controlled by offered Compression NMS/AMS	75 Nos. (minimum)
8	Storage Memory	SSD, 240GB (Min.) in RAID 1 Configuration

D. Remote Access

It shall be possible to add a remote user terminal and modem/IP interface to provide access to the control system computer from a remote location via dial up telephone line/ Broadband network. The remote user shall have access to pre-defined set of commands available at the main control system and access shall be available subject to authorized users having necessary password and authorization for security.

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5.2.6 Specification for Satellite Modulator System

The Satellite Modulator System consists of the following equipment.

- a) Satellite Modulator in (1+1) redundant configuration
- b) IF Redundancy switch.

5.2.6.1 Specifications for Satellite Modulator

a) Essential Features:

- (i) The offered modulator should be compact, reliable and have state of the art technology.
- (ii) It should provide IF output (70 ± 18 MHz) as per DVB-S and DVB-S2 standards' modulation schemes based on the user requirement.
- (iii) It should have facility to auto equalization or pre-equalization to pre-distort signal before feeding to Up-converter based on received signal from existing LNA, so that downlink signal is kept within 36 MHz BW of the transponder. This should not affect the operation of the existing IRDs (MPEG-2, MPEG-4, HEVC and DVB-S & DVB-S2 compliant).
- (iv) The offered modulators should have front panel display. It should be possible to configure the offered modulators through front panel keys and through browser on remote computer.
- (v) The offered modulators should be compliant to the ETSI 103 129 DVB Carrier ID (DVB-CID) requirement.
- (vi) The offered modulators will be used in 1+1 redundant mode.
- (vii) The redundancy of the offered modulators shall be controlled through the offered IF redundancy switch.
- (viii) In case of failure of main/ redundant modulator, audio/visual alarm should be generated to indicate the failure of main/ redundant modulator.
- (ix) The offered Modulators should have facility to take ASI input through BNC port and MPEG2 TS over IP input through IP data port .
- (x) All the requisite drivers, software and licenses required for meeting the DD specifications must necessarily be pre-loaded and configured by the OEM before supplying equipment to DD.

b) Technical Specifications:

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Sl. No.	Parameter	Specifications
I. ASI Inputs		
1	Compliance	DVB Document A010 rev. 1, May 1997: Section 4.4
2	Byte stuffing modes	Byte and single packet burst mode.
3	Connector	BNC
II. IP Data Port{External IP to ASI converter is not acceptable.}		
1	Input data format	MPEG-2 TS over IP
2	Ethernet interface	1000 base T
3	Ethernet Connector	1xRJ45
III. Forward Error Correction and Modulation Scheme as per DVB-S standard		
1	Multiplex Adaptation As per ETS 300 421 (1994)and Energy Dispersal	As per ETSI EN 300 421 (DVB-S)
2	Outer Coding	Reed-Solomon (204,188,T=8)
3	Interleaving Depth	12
4	Inner coding	QPSK: Convolution R=1/2, 2/3, 3/4, 5/6 or 7/8
5	Spectrum Roll off factor	20%, 25 % and 35% selectable
6	Modulation	QPSK
7	Transmission rates	Variable, 1.0 to 45.0 M symbol/s (min.)
IV. Forward Error Correction and Modulation Scheme as per DVB-S2 standard		
1	Multiplex Adaptationand Energy Dispersal	As per EN 302 307 (DVB-S2)
2	Modulation	QPSK, 8PSK
3	Modulation mode	Should be capable of emitting signals on the following modes: 1. Backward compatible mode (DVB-S/ DVB-S2) 2. Constant Coding and Modulation mode (CCM)
4	Outer Coding	BCH
5	Inner coding	LDPC R= 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 (for DVB-S2, QPSK), R= 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 (for DVB-S2, 8PSK)





6	Spectrum Roll off factor	5%, 10%, 15%, 20%, 25% and 35% selectable
7	Transmission rates	Variable, 1.0 to 45 M symbol/sec (min.)
V. IF output Interface Specifications		
1	Output Frequency Range	70 ± 18 MHz
2	Output Impedance	75 ohms unbalanced
3	Connector	BNC, female
5	Output Level Range	-20 dBm to 0 dBm
6	Level Step Size	0.2 dB max.
7	Spurious Outputs	≤ -55 dBc/4 kHz at 0 dBm output power level in Band. or ≤ -60 dBm out side Band
8	Synthesizer Phase Noise	Should meet the requirements of IESS-308
9	CW mode	Selectable
10	Noise floor (No/ C)	< -120 dBc/Hz
VI. Internal 10 MHz clock & Synchronization		
1	Frequency stability with respect to temperature	< ± 2.5ppm over 0° to 50°
4	Output Return Loss	15 dB (min.)

5.2.7 Specifications for IF Redundancy switch

a) Essential Features:

- i) The offered IF redundancy switch must be from the OEM of offered satellite modulator to ensure compatibility of the offered IF redundancy switch with the offered modulator system.
- ii) In case of failure of main/ redundant chain, audio/visual alarm should be generated to indicate the failure of main/ redundant chain.
- iii) The offered IF redundancy switch should have dual redundant power supplies.
- iv) Facility for automatic, Manual and remote (through web interface) switching of the satellite modulator should be available through the IF Switch.
- v) The switch should have high reliability, robustness and should be of professional type.

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- vi) All the requisite drivers, software and licenses required for meeting the DD specifications must necessarily be pre-loaded and configured by the OEM before supplying equipment to DD.

b) Technical Specifications

Sl. No.	Parameter	Specifications
i)	Operating frequency range	50 to 200 MHz
ii)	Insertion loss	≤ 3 dB

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iii)	Isolation	
	a) Input to input	45dB min
	b) input to output	50dB min
iv)	Input return loss	13 dB min
v)	Output return loss	13 dB min
vi)	IF connector	BNC/SMA type
vii)	Impedance	75 Ohms
viii)	Remote control	RS232or RS422/485 or RJ 45

5.3 Monitoring System

5.5.1 Confidence Level monitoring system

5.5.1.1 17 inch (Nominal) LCD (TFT) SD & HD Colour Monitor

A. ESSENTIAL FEATURES:

- i) The offered monitor should incorporate high intensity, high contrast wide screen 17 inch (Nominal), wide viewing angle LCD Panel to view stable images from various angles: both horizontally and vertically, with no reduction in picture contrast, brightness and colour saturation.
- ii) The LCD panel of the offered monitor should have resolutions of 1920 x 1080 pixels in 16:9 aspect ratio. The offered monitor should support 16:9 and 4:3 aspect ratios of the video signal. The monitor should also support 1920X1080/50I (HD) and 720X576/50I (SD) video formats.
- iii) LCD colour monitor should accept SD and HD SDI input (detected automatically).
- iv) The offered monitor should support embedded audio.
- v) The offered monitor should have 10-bit signal processing.
- vi) The monitor should have 1:1 pixel mapping to display the pictures in the original resolution (subject to the native resolution of the LCD panel) and aspect ratio of the input signal without any stretch and distortion.
- vii) It should be possible for the user to select the industry standard colour temperature through menu for matching colours and gradation of the monitor.
- viii) The LCD panel should be coated with Anti-Reflection protection layer to provide high transmission rate of the internal light source and to keep the reflection from ambient light to a minimum.
- ix) The monitor should have an external remote-control capability via Ethernet, serial or similar interface.
- x) The monitor should be light weight, robust, compact and 19 inch rack mountable. It should have front panel controls to control the display parameters like brightness, contrast, colour saturation, audio etc.

B. Technical Specification:

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S. No.	Parameters	Specification
1	Display Size	17 inch (Nominal) diagonally
2	Resolution	1920x1080 pixels or better
3	Colour reproduction	16 millions or better
4	Contrast ratio	300: 1 or better
5	Viewing Angle	140 degree (min.) in Horizontal 140 degree (min.) in Vertical
6	Brightness	250 cd / sq. m or better
7	Supported Aspect ratio	16:9
8	Video Input	HD & SD-SDI (BNC) x 2 or more
9	Audio input	Embedded Audio
10	Video Format	SD & HD

5.5.1.2 08 Channel Audio/ Video Monitor

A. Essential Features:

- Audio/Video Monitor is to be used for confidence level monitoring of transmission chain at various points. Output of 16x16 SD/SDI router will be fed to 08 Channel Audio/Video monitor.
- The offered Audio/Video monitor should have high resolution LCD screen and support 1920X1080/50I (HD-SDI) and 720X576/50I (SD-SDI) video formats.
- It should decode and display Dolby Digital 5.1 or Dolby-E, 8 Channel Signal, using bar-graph meters.
- The offered system should have multi-channel audio bar graph and speakers and should not be overlayed on the video.

B. It should be 19" rack mountable.

C. Technical Specification:

S. No.	Parameters	Specification
1	Video input format	a) SD-SDI input with embedded audio b) HD-SDI input with embedded audio c) IP input MPEG-2 TS stream with embedded audio
2	Embedded Audio on SDI	i) Dolby Digital 5.1 ii) Dolby -E iii) AES/EBU
3	Video input quantity & type	1 no., SD & HD-SDI Input 1 no., Reclocked Output
4	Connector type	BNC, female
5	Level meter scaling	AES/EBU, VU, PPM
6	Loudspeaker Power	2x5 W (HF) + 20W (LF)
7	Display Screen type & size	08 Channel Bar Graph Meter

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5.5.1.3 MPEG Decoder or IRD with L Band input for SDTV & HDTV channels

The specification remains the same as given in the para 5.1.2 of Technical Specification. This IRD will be decoding input sources being received through the C-band downlink signals. This IRD will also be used for decoding Radio channels being received through the C-band downlinking.

5.5.1.4 MPEG Decoder or IRD with IP input for SDTV & HDTV

This type of IRD shall be provided with IP input feature. Remaining Technical Specifications remains the same as given in the para 5.1.2. This IRD will be decoding input sources being received through the IP. This IRD will also be used for decoding Radio channels being received through the IP/ internet).

5.5.1.5 MPEG Decoder or IRD with SDI output ports for SDTV & HDTV

This IRD shall be provided with L-band input and IP inputs. This IRD will be decoding downlink signal of the Earth Station for the monitoring system and Video Logger. Additional

Specifications pertaining to SDI Output for this type of IRD is as under:

S. No.	Parameters	Specification
A	SDI Output	
1	Format	SD SDI Video complying with SMPTE 259M, over BNC/ Mini BNC port in 480i50, 576i50 format
		HD SDI Video output complying with SMPTE 292M, over BNC/ Mini BNC port in 720i50, 1080i50 format
2	Quantity of SDI Ports	Minimum one number of SDI port per decode stream

Remaining Technical Specifications remains the same as given in the para 5.1.2.

5.5.1.6 16x16 HD-SDI/ASI Routing Switcher

A. General Features:

The equipment should be very reliable and able to be used for selection of any one of the 16 HD-SDI input signals to all destinations. The equipment so offered should be for professional Broadcast applications. The Router has to be quoted with either separate or on chassis X-Y Bus control panel.

B. Essential Features:

- The routing switcher electronics should be capable of being mounted in a standard 19" rack frame.
- The switcher shall handle HD-SDI signal and ASI signal for routing from input to output destinations. The reclocked output shall be available at the outputs. Switching should take place during the vertical interval period.

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- iii. The switcher shall store routing and control information. In the event of any power supply failure, the status of the switcher output should remain unchanged when the power supply is restored.
- iv. The switcher should have a built in Auto-Switchable redundant power supply.
- v. The switcher quoted against this specification should be complete in all respects and should have the desired features.
- vi. Any of the 16 inputs shall be capable of being switched to any or all of 16 outputs.

C. Technical Specification:

S. No.	Parameters	Specification
1.	Matrix size	16x16
2.	Input	16 nos. HD-SDI/ASI (BNC/HD BNC 75 ohms)
3.	Equalization	Automatic: 150 Meters of Belden 1694A or equivalent at 270 Mbps.
4.	Output	16 nos. HD-SDI/ASI (BNC 75 ohm)
5.	Return Loss	Should be maintained better than 15 dB up to 270 Mb/s throughout the switching chain.
6.	Web access	Should be accessible and controllable thru Web based GUI.

5.5.1.7 High Quality Digital Audio Ampli-speaker:

A. Essential Features:

- i) The offered ampli-speaker should have wide dynamic range, low distortion, flat frequency response and high SPL capability.
- ii) The offered ampli-speaker should have two-way speaker system consisting of a woofer and a tweeter. It should be a bi-amplified active monitor system.
- iii) It should have at least a 8" Low Frequency Transducer (woofer) and approximately a High Frequency Transducer (tweeter) of 1" size.
- iv) It should have a high-power amplifier inbuilt in the ampli-speaker to provide approximately 150 Watts (RMS) power thru the low frequency transducer. Also inbuilt another high-power amplifier to provide 70 Watts (RMS) power thru the high frequency transducer. These amplifiers should be highly efficient and should withstand long hours of usage.
- v) The ampli-speaker should have volume control arrangements for standalone operations. It should also indicate signal overloading.
- vi) The ampli-speaker should employ Digital Signal Processing (DSP).
- vii) The offered ampli-speaker should accept balanced analog audio on 3-pin XLR female connector. It should also accept balanced AES/EBU digital audio input on 3-pin XLR female connector.

B. Technical Specification:

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S. No.	Parameters	Specification
1	INPUTS	
1.1	Analogue Audio Input	Balanced on XLR with 10K Ω input impedance
2	DRIVERS	
2.1	Bass (woofer)	8 inch
2.2	Treble (Tweeter)	approx. 1 inch
3	FREQUENCY RESPONSE	
3.1	Lower cutoff frequency	≤ 43 Hz
3.2	Upper Cutoff Frequency	≥ 20 KHz
4	AMPLIFIER POWER	
4.1	Bass (woofer)	150 Watts or better
4.2	Treble (tweeter)	70 Watts or better
5	SOUND PRESSURE LEVEL	
5.1	Short term RMS SPL @ 1 Meter	Better than 110 dB
5.2	Continuous Max SPL @ 1 Meter	Better than 100 dB

5.5.2 Input Source and Downlink monitoring system

- a. **20 Channel Input source monitoring:** The input source monitoring for all the 10 SDTV channels and 04 HDTV channels of the transport stream will be done on Multi-image display system. Considering that the number of input sources is likely to be much higher, a provision of monitoring at least 20 sources will be required. This shall include input source monitoring of 04 Radio Channels on the Multi-Image display system. These Radio channel will be available on MPEG-2 over IP transport stream.
- b. **20 Channel Downlink signal monitoring:** The downlink signal monitoring of all the uplinked TV Channels and Radio Channels will be done on the second Multi-image display system displaying 20 signals (10 SDI+04 HD SDI+ 04 Radio signals). The downlink signal will be demodulated and decoded to obtain all the 12 SDTV channels, 04 HDTV channels and 04 Radio streams. The transport streams will be available in MPEG-2, MPEG-4 & HEVC compressed MPEG-2 TS over IP format from the IRDs on ethernet ports.
- c. Other physical topography is acceptable provided it meets scope of work and project objective.

5.5.2.1 Professional Broadcast Quality Multi Image display system for TV & Radio Channel

A. Essential Features:

SATD/ Compression_Monitoring_Power Supply_Pitampura_Delhi / May-26

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- a) Each set of offered product shall be of professional broadcast quality & is able to display the required set of videos (refer clause 5.5.2 a. and b. for exact number) simultaneously along with the corresponding audio bar graph keyed into the video.
- b) The product shall facilitate selection of preset window layouts of various patterns and various sizes of video images.
- c) The system shall be flexible in terms of:
 - i) Control Multiple Screens
 - ii) Display the same source multiple times, in different sizes in the same or different modules.
 - iii) The system shall be capable of resizing the video signal and re-arranging the screen layout as per requirement.
- d) It shall be possible to display real time analogue and digital clocks as a substitute for any input signal into a display window
- e) The offered product shall have the facility for labeling the displayed video source. The above features shall be selectable and removable depending upon the application
- f) It should support 4:3 and 16:9 aspect ratios and shall be able to configure for 4:3 or 16:9 aspect ratio instantly.
- g) It shall have SDI/DVI/XVGA/HDMI/DP or better output to feed the multi-window output video to the display monitor.
- h) The video output of multi-viewer shall be matched with the video input of the 55" display system, if not then matching adapter may be included in offer.
- i) The system should have one dedicated remote-control panel (RCP) for easy, quick and user-friendly access for recalling the required preset layouts, selecting full screen window, and selecting the audio source for monitoring etc. In case of software-based RCP is offered, the required hardware should be provided in the offer.
- j) The offered product should have the interfacing facility to connect an external PC for video layout configuration and customization.
- k) It should have hot swappable dual redundant power supply.
- l) It should have 19" rack mounted main frame; and it shall have the facility to accommodate modular cards to increase inputs, outputs and other interfacing facilities in case SDI Multi-viewer or it shall have the facility to increase the inputs, outputs and other interfacing facilities by enabling additional licenses in case IP Multi-viewer.
- m) It should have the facility to store/recall at least 10 nos. of preset layouts, window sizes etc.
- n) The offered solution shall be modular and expandable.
- o) The system shall provide High Video Quality with Excellent scaling, Full Frame rate. The system shall have scalability of Sources Display Devices.
- p) The system shall log actions taken in a secured file.

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- q) The system shall provide customizable criteria for fault detection, alarm and reporting.
- r) The system/solution shall be able to detect and display the following:
- (i) on screen alarms
 - (ii) Audible alarms (like beep sound or tone)
 - (iii) log the following faults/errors: (a) Loss of video, (b) Frozen video (c) Black video (d) Loss of audio (e) Audio level.
- s) There shall be a facility to add UMD for each and every input injected in the Video.

B. Technical Specifications:

S. No.	Parameters	Specification
1	Format of Input Transport Stream	MPEG 2 TS over IP (SPTS & MPTS)
2	SD-SDI Video Decoder	i) SD MPEG-2 ii) SD H.264/MPEG-4 AVC
3	SD-SDI Video Resolution	720 x 576, 704 x 576, 544 x 576
4	HD-SDI Video Resolution	1920 x 1080
5	HD-SDI Video Decoder	i) HD H.264 Main Profile Level 4.0 8 bit ii) HD H.264 High Profile Level 4.0 iii) HD H.265/HEVC Main 10 Profile Level 4.0 10 bit
6	Audio Decoder	i) MPEG-1 Layer-II ii) HE AAC V1 & V2 5.1 Audio iii) Dolby Digital AC-3 5.1 Audio iv) Dolby Digital Plus 5.1 E-AC-3 Audio
7	Video Output Format	SDI/DVI / X VGA/HDMI/DP
8	Video Output Port	Min 2 nos. (Independent)
9	Operating Temperature	5 to 35 degrees Centigrade
10	Humidity	10 – 85%

5.5.2.2 MPEG Decoder or IRD with L Band input for SDTV & HDTV channels same as 5.5.13

The demodulators will be used in downlink monitoring chain. The chassis should consist of multiple modules. The module should essentially meet the following specs:

S. No.	Parameters	Specification
DVB-S Demodulator		
1	Standards:	EN 300 421 (DVB-S),
2	Input Frequency Range	950 - 2150 MHz
3	No. of Inputs per module	1 or more independently tunable
4	Decoding	RS
5	Symbol Rates	1.0 to 40 M symbol/sec for (DVB-S)

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6	FEC DVB-S	R= 1/2, 2/3, 3/4, 5/6, 7/8
7	LNB Signaling	LNB voltage + 22KHz continuous tone
8	LNB Voltage	0/13/18Volts
9	Connector:	F connector
10	Impedance:	75 ohms
11	Output Port	TS over IP.
12	Management	10/100/1000 Base-T Ethernet
DVB-S-2 Demodulator		
1	Standards:	EN 302 307 (DVB-S2)
2	Input Frequency Range	950 - 2150 MHz
3	No. of Inputs per module	1 or more independently tunable
4	Decoding	LDPC and BCH
5	Symbol Rates	1.0 to 40 M symbol/sec for (DVB-S2)
6	FEC DVB-S2 QPSK	R= 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
7	FEC DVB-S2 8PSK	R= 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
8	LNB Signaling	LNB voltage + 22KHz continuous tone
9	LNB Voltage	0/13/18Volts
10	Connector:	F connector
11	Impedance:	75 ohms
12	Output Port	TS over IP.
13	Management	10/100/1000 Base-T Ethernet

5.5.2.3 Professional Broadcast 55" LCD Video wall Display

S. No.	Parameters	Specification
1	Size	55 inch nominal
2	Backlit light	LED
3	Input	DVI and audio input, HDMI/DP
5	Resolution	1920x1080 or higher
6	Aspect ratio	16:9
7	Viewing angle	Horizontal: 170 degrees, Vertical: 170 degrees
8	Luminance	≥ 450 cd/m2
9	Contrast ratio	1100:1 or better
10	Bezel Size	Maximum 5.0 mm on either side
11	Power consumption	400W Max
12	Operation Hours	24x7 Industrial Type
13	Mounting	Wall and stand Mounting with mounting kit and 5 feet high trolley.
14	Accessory	Power cord, DVI / HDMI Cable

5.5.2.4 20 Channel Video Logger

A. General Features:

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1. It shall be a high-quality broadcast off-air recording system (TS logger, native support for transport stream over IP) for 20 SDTV/ HDTV channel each with four stereo audio embedded audio on the TV signal (TS stream).
2. The logger shall be able to record HDTV Channels with the available embedded audio with formats as above.
3. It should have provision to record 20 SDTV/ HDTV channels through MPEG-2 TS over IP port available from the IRD/demodulator.
4. It should also have provision to record inputs received through BNC port.
5. It should accept Standard Definition video input with MPEG-2 and MPEG-4 encoding and MPEG-1 layer-II (Mono and Stereo), HE-AAC for audio.
6. It should accept HighDefinition video inputs with MPEG-4 encoding for video and MPEG-1 layer-II (Mono and Stereo), Dolby digital plus 5.1, Dolby digital AC-3 (5.1), AAC and HE-AAC audio encoding.
7. It should have the facility to record automatically the content on a 24x7x365 basis.
8. The logger shall archive the content for a period of minimum 90 days and assign metadata from associated EPG with real date & time stamp.
9. The video logger server shall be offered in 1+1 Configuration for recoding and storage of 20 SDTV/ HDTV channels. Each sever shall record and store the content of SDTV, HDTV Channel in one specified format at any given point of time.
10. It should have intuitive playback controls include slow-motion progress.
11. It should have facility to monitor content in live mode with logs and assign metadata to content
12. The server shall record and store HDTV channels without requiring any up-gradation of hardware and software license. The number of HDTV channels shall be restricted to bit rate of audio and video signal defined in technical specifications.
13. The offered broadcast logging solution should offer web browserbased access and feature intelligent platform solutions such as active alarms, active alerts, searchability of the Video content and context based retrieval, etc.
14. It should comply the media regulators requirements for DVB-Subtitle, closed caption, Loudness, DPI SCTE-35 etc.
15. It should have the facility to Integrate BISS-1, BISS-E encryption, EPG, audio description etc.
16. It should have Quick access and retrieval of recorded content through web interface, GUI interface.
- 17.

B. Transport Stream recording:

1. It should have facility to monitor the transport stream (TS), record the entire Transport Stream or selected scheduled programs from the Transport Stream.
2. It should have transport stream logging solution can record multiple MPTS/SPTS streams and record it in server with real time stamp.

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3. The solution should also record multiple embedded audio tracks and metadata such as multiple subtitles, DVB Teletext, Closed Captions, etc.
4. The recording should exclude null packets from the Transport Stream. It should be possible to exclude recording of specific Tv channel stream/PID available in the stream. It should also be possible to exclude from recording any scheduled program/s in the stream.
5. The solution should offer facility to save the TS in its original format (native) for at least 06 days to monitor the quality.

C. Remote Broadcast Verification & Monitoring with Remote client:

1. It should detect problems — such as loss of audio or video signal, loudness deviation monitoring, frozen picture, etc.
2. Technical Monitoring will send a real time alert, allowing administrators to be aware and solve the problems immediately and optimize their transmissions.
3. It should facilitate comprehensive monitoring through following additional features:
 - i. Automated media performance monitoring
 - ii. Configurable, real-time alerts: SMTP, email, or SMS
 - iii. Daily logs for system administrators

D. Technical Specification:

S. No.	Parameters	Specification
1	Input/ Ingest supporting Port	
a	MPEG-2 TS /DVB-ASI through BNC	2 Nos.
b	MPEG-2 TS over IP	2 Transport streams (MPTS and SPTS)
2	Recording Bit Rate	
a	Video	256 Kbps to 10 Mbps
b	Audio	64 Kbps to 640 Kbps
3	Decompression of Video	a) MPEG-2, MPEG-4 compressed MPEG-2 TS over IP b) MPEG-2, MPEG-4 compressed MPEG-2 TS on BNC/HD BNC/ mini BNC
b	Decompression of Audio	MPEG-1 Layer-II, Dolby Digital 5.1, Dolby Digital Plus 5.1 audio and Dolby E
4	Required Storage Capacity for content	

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a	SDTV channel with four Stereo Channels	Video Bit Rate : 512 Kbps (Min) Audio Bit Rate: 64 Kbps (Min)	Minimum 90 Days in N+1 Configuration for 20 SDTV including 04 HDTV channels (with defined Video bit rates in Column 03)
b	HDTV Channel one Stereo Channel & 5.1 Multichannel audio (Dolby Digital 5.1 & HE-AAC 5.1 Standard at a time any one)	Video Bit Rate : Mbps (Min) Audio Bit Rate: 192 Kbps (Min)	
5	Recording Server	19" Rack mounted	
6	Work Station for remote monitoring with required licenses		
a	CPU	Quad Core CPU or better	
b	RAM	8 GB or more	
c	SSD	250 GB or more	
d	Network	Dual Ethernet Interface	
e	Operating System	Windows (Windows 11 or better)	
f	Management Port	1 Gbps port or better	

5.5.2.5 MPEG Decoder or IRD with L Band input for SDTV & HDTV

The specification remains the same as given in the para 5.1.2 and para 5.5.1.5 of Technical Specification.

5.5.2.6 50/55" (Nominal) LCD/LED/OLED TV Display Unit:

S. No.	Parameters	Specification
1	Display Size	50/55" (Nominal)
2	Panel Technology	Inplane Switching (IPS)
3	Native Resolution	1920 x 1080 (HD)
4	Brightness	400 cd/ m ² or above
5	Contrast Ratio	4000:1 or better
6	Viewing Angle	178°x178°
7	Response Time	15 ms or less
8	Maximum Bezel Width (Left/Right/Top /Bottom)	13/13/13/20 mm or less
9	Input Ports	HDMI - 3 Nos., USB 2.0-1 no., RJ45-1 No., RF-1

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		No.
10	Output Ports	Optical output-1 for digital audio
11	Special features	Smart Share / Screen Share, Fail over, Wake on LAN, Wireless access point/Hotspot, Pre-loaded You-tube app, Play via URL, SOC Player
12	Wi-Fi	Built-in Wi-fi required
13	Bluetooth	Yes
14	Audio	20W (10W * 2)
15	Power Supply	100-240V~, 50/60Hz
16	Power Type	Built-In Power
17	Power Consumption	145 W or Less (Typical)
18	Certificates	BIS
19	Accessories	Table stand / Wall mount, Remote, IR remote, user manual
20	OEM Warranty	3 Years

5.5.2.7 Waveform Monitor:

- The waveform monitor should have HD-SDI inputs.
- It should be high precision broadcast digital Video Waveform Monitor to display HD-SDI signals (auto-detecting) with the capability of high accurate measurement.
- The waveform monitor should have two numbers of inputs. The inputs should support High Definition and Standard Definition serial Digital Signals conforming to SMPTE 292M (HD-SDI : 1.485 Gb/s) and SMPTE 259M (SD-SDI : 270 Mb/s)
- The waveform monitor should display waveform, vector, picture, Gamut and status.
- The Waveform monitor should be able to display the waveform, vector, picture of both the input signals (HD-SDI) simultaneously.
- The waveform monitor should have external Reference Input of Tri-Level Sync signal or PAL black Burst.
- The offered waveform monitor should have re-clocked SDI output of the selected input.
- The Waveform Monitor should have built in bright and crisp colour touch screen display with a resolution of 1920 X 1080 (HD) for live monitoring.
- The waveform Monitor should have overlay display mode to Overlays component signals and Parade mode to display the component signals in side by side.
- The Waveform should have safe area, safe action and safe title marker display on the picture display to quickly verify correct placement of graphics, titles or logos.
- The waveform monitor should have customizable presets to allow quickly saving commonly used configurations and should be able to store and recall.
- It should be possible to monitor SDI signal errors of HD-SDI signals as well as errors related to the embedded audio signals and ancillary data.

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- m) The waveform monitor should be able to analyze and display ancillary data along with SAV, EAV and active video data.
- n) It should be possible to detect transmission errors in the ancillary data.
- o) The waveform monitor should have the feature of Vector display of the colour difference signals.
- p) The waveform monitor should have frame capture function and store the video data from an entire video frame and display this captured frame data on waveform, vector, gamut and picture displays.
- r) The Waveform Monitor should be able to automatically capture frame data on the occurrence of specific faults or errors.
- s) The Waveform Monitor should have USB Connector on the front panel to store the presets and data.
- t) It should have Ethernet interface with standard RJ-45 connector for remote control and monitoring.
- u) Detailed Technical Specifications:

A : SDI Input

1	Inputs	2 Nos confirming SMPTE 292M (HD-SDI : 1.485 Gbps)
2	Input Connector	BNC 75 Ohm
3	Input Level	800 mVp-p +/- 10%
4	Input Return Loss	≥ 15 dB (5 MHz to 1.485 GHz)

B. SDI Output

1	Signal	Serially reclocked output of the selected input signal
2	Output Connector	BNC 75 Ohm
3	Output Level	800 mVp-p +/- 10%

C. External Reference

1	Input Signal	Tri-Level Sync signal or PAL black Burst
2	Input Connector	BNC 75 Ohm
3	Return Loss	≥ 30 dB (50 KHz to 30 MHz, 75 Ohm termination)

D. Waveform Vertical Characteristics

1	Frequency Response HD	
i.	Luminance Channel (Y)	$\leq \pm 0.5\%$ (1 MHz to 30 MHz)
ii.	Chrominance Level	$\leq \pm 0.5\%$ (0.5 MHz to 15 MHz)
2	Frequency Response	
i.	Luminance Channel (Y)	$\leq \pm 0.5\%$ (1 MHz to 5.75 MHz)
ii.	Chrominance Level	$\leq \pm 0.5\%$ (0.5 MHz to 2.75 MHz)
3	Amplitude Accuracy	$\leq \pm 0.5\%$
4	Gain	X1, X5 and X10

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1	Screen Type	TFT/LCD Touch Screen
2	Resolution	1920 X 1080 or better
3	Screen Size	7" or better
4	Format	HD

F Power Supply & Operating Temperature

1	Input	230 $\pm$ 5% V AC, 50 Hz
2	Operating Temperature	0 Deg C to 40 Deg C

5.6 Firewall:

The proposed Firewall system shall facilitate the reception/transmission of signals over the internet.

A. General Requirements

1. The proposed firewall solution shall support secure transmission and reception of minimum 20 TV/radio/data contribution and distribution streams over internet/IP networks.
2. The proposed firewall solution shall support secure transmission and reception of minimum 20 TV/radio/data contribution and distribution streams over internet/IP networks.
3. The solution shall support Stateful Firewall, Intrusion Prevention System (IPS), Anti-malware, Application Control, URL Filtering, VPN, Centralized Management and SD-WAN functionality.
4. All security functions shall operate on a single integrated appliance/platform.
5. The proposed appliance shall be purpose-built hardware security appliance with hardened operating system.
6. Appliance shall be rack mountable and supplied with rack mounting accessories.
7. The appliance shall not contain any active internal or external Wi-Fi functionality.
8. OEM shall provide firmware updates, software upgrades, threat signatures and technical support during contract period.

B. Technical Specification

1. The solution shall support centralized management and monitoring over secure channels.
2. The solution shall support: IPv4 and IPv6, VLAN tagging (IEEE 802.1Q), Link aggregation (802.3ad), Static Routing, OSPF, BGP, Policy Based Routing
3. The firewall shall support: Site-to-site IPsec VPN, Remote Access VPN, SSL VPN

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4. The proposed solution shall support application-aware security policies based on: Source/Destination IP, Applications, Services, URLs, VLANs, Geolocation, Time schedules, Users/groups
5. The solution shall support integration with: LDAP, RADIUS, Active Directory
6. The proposed solution shall support: SRT, RIST, RTP, MPEG-TS over IP, UDP-based real-time media traffic without packet drops or excessive latency under full threat inspection load.
7. The solution shall support QoS and traffic prioritization for real-time media traffic.
8. The proposed platform shall support: SD-WAN, WAN link load balancing, automatic WAN failover
9. The proposed solution shall support operation in: Routed mode, Transparent mode

C. Performance Requirements

1. The appliance shall provide minimum: 2.5 Gbps Threat Protection throughput with IPS, Application Control, Anti-malware and URL Filtering enabled.
2. The appliance shall provide minimum: 3 Gbps NGFW throughput, 5 Gbps IPS throughput, 30 Gbps Firewall throughput
3. The appliance shall support minimum: 100,000 new sessions per second, 2 million concurrent sessions
4. Appliance shall support minimum: 4 × 1G RJ45 interfaces, 4 × 1G SFP interfaces, dedicated management interface, console interface, USB ports
5. Appliance shall support: Minimum 8 GB RAM, minimum 480 GB SSD storage, multicore CPU architecture, dedicated hardware acceleration ASIC/processors
6. Appliance shall support latency optimized forwarding for high-volume UDP traffic.

D. Security Requirements

1. The firewall shall support: DoS/DDoS protection, SYN flood protection, IP spoofing protection, malformed packet protection, reconnaissance detection
2. The IPS engine shall support: Automatic signature updates, custom IPS signatures, application signatures
3. The solution shall support: Application identification and categorization, custom application definitions, URL category filtering
4. The OEM shall have global threat intelligence infrastructure for security research and threat updates.
5. The solution shall support SSL inspection capabilities, integration with external SIEM/logging systems using APIs or standard interfaces.

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E. VPN & Encryption

1. The solution shall support: AES-128/192/256, SHA-2, IKEv2, PKI/X.509 certificates, NAT traversal
2. The solution shall support high-performance IPsec VPN acceleration, VPN redundancy and multiple tunnels.
3. F. Logging & Management
4. The solution shall support: Centralized logging, audit trails, role-based administration, configuration tracking
5. The solution shall support: centralized reporting, analytics, API integration, SIEM integration, secure remote administration.
6. Logs shall be retained for minimum 90 days using internal or external storage

5.7 Power Supply System

The Power Supply System consists of the following equipment:-

- a. 2x40 KVA UPS operating in (1+1) parallel redundant load sharing mode with 60 minutes Li-Ion battery backup for each UPS
- b. Power Distribution Panels (PDPs), Sub distribution Boards (SDBs) for power distribution to the various equipment chains and Mains Distribution Units (MDUs).
- c. Suitable earthing for the power supply system.

5.7.1 UPS system including Battery

Bidder will have to supply, install, test and commission the 2x40 KVA UPS including 60 Minutes LiFePO4 Battery Bank for Earth Station with Backup time Minimum 60 minutes (at the End of Life (EOL) of Battery) for 100 % load with each UPS system:

A. General Features of UPS:

The UPS should be reliable and stable in operation under Indian tropical conditions. It should have a front panel LCD display to show various parameters of the system to ease the monitoring. The UPS system shall be capable of running in single stand-alone Mode as well as in Parallel Redundant Load Sharing Mode with another identical UPS as per the attached configurations shown in DRG No. 5 & 6.

1	a) The UPS system should have a monitoring panel (LCD Based) with various types of fault alarms and metering functions including: (i) Output voltage, current & frequency. (ii) Input voltage, current & frequency. (iii) Bypass Voltage, Current & frequency. (iv) Battery capacity, backup time left & bad battery indication. (v) Temperature of System, Inverter section and Rectifier section.
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	b) The UPS system should display RMS value of load current. c) The UPS system should generate aural and visual alarm for bad Battery condition.
2	a) The UPS system should have wide input voltage and input frequency tolerance as specified in Rectifier section. b) Transient Voltage Surge Suppressor (TVSS) should be provided at the input & output of the UPS System.
3	The system should have provision for controlling all the three phases individually, even in case of 100% unbalancing at the output with even 0% load on one phase.
4	UPS should be configured for parallel redundant operation. In case of failure of parallel operation, automatic and manual override for the system to work in 1+1 hot standby should be available as per suggestive single line diagram in DRG No. 5&6.
5	The UPS system should be capable of supplying energy to load from commercial mains without any break even in case of phase reversal at the input. It should also generate aural and visual alarm in such a case.
6	a) The system should have provision for protection against - Input under voltage - Input Over Voltage - Output Over Voltage - Output Over load - Output short circuit - Battery under Voltage - Over temperature - DC Over current b) The system should generate aural and visual alarms for above-mentioned conditions.
7	The system should have Controls as - Input Circuit Breaker - Bypass Circuit Breaker - Maintenance Bypass Switch - Inverter ON / OFF Switch - Alarm acknowledge switch
8	a) The system should have facility to store the Logs of the events being monitored by monitoring system. b) The UPS system should have the capability to store a minimum of last 100 events. c) The UPS should have in – built digital fault diagnostic through stored events in UPS system.
9	(a) Bidder should specify the nos. & type of desired batteries (b) The firm should also provide battery changeover unit for battery banks so

	that any bank can be connected to any UPS system.
10	The battery charger should have provision of - Monitoring battery temperature and accordingly adjusting the charging level to enhance the battery life. - Programmable battery charging which can be programmed to enhance battery life.
11	The UPS system should have communication port RJ45 and should be compatible to integrate with control computer. Suitable software for monitoring & diagnostics etc. should be supplied.
11	The UPS system should be designed with forced air-cooling for proper ventilation. Acoustic noise level should be kept at minimum.
12	The UPS system output should be isolated from the DC circuit of the UPS.

2. Features of Rectifier Section of the UPS

1.	Input	3-phase, 4-wire plus Ground
2.	Input Voltage	400 V nominal (+ 15%, - 15%)
3.	Input Frequency	47 - 53 Hz
4.	Input Power factor	> 0.99

3. Features of Inverter system of the UPS:

1.	Inverter Input	3-phase, 4-wire plus Ground
2.	Output Voltage	400 VAC (nominal), 50Hz
3.	Output voltage regulation: 100% Balanced load 100% Unbalanced load - Transient response (100% step loading) - Recovery time to steady state ($\pm 1\%$)	$\leq \pm 1\%$ $\leq \pm 2\%$ $\leq 5\%$ ≤ 5 msec.
4.	Output frequency regulation	$\pm 1\%$ or better
5.	Inverter Mode Overload capacity	10 Minutes @ 110% of rated load and 1Minute @Upto 133% of rated load
6.	Bypass Mode Overload capacity	Continuous@ Upto 110% of rated loadand 10 minutes @110% to 150%
7.	Computer Interface:	Ethernet

4. Battery bank and Battery of UPS System:

S.	Parameters	Specification
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No.		
1.	Battery Bank Capacity	LiFePO4 Battery Bank (55000VAH min. actual VAH depends upon solution offered) (for each UPS)
2.	No. of Battery String	1 no. for each Battery Bank (one battery bank with each UPS)
3.	DC Voltage of the battery bank	Should be Minimum 360 V
4.	Backup time:	Minimum 60 minutes (at the End of Life (EOL) of Battery) for 100 % load with each UPS system
5.	Life:	10 years designed life at 27° C on full float.

5.7.2 Power Distribution Panel (PDP) & Sub Distribution Board (SDB): Essential Features:

- PDP shall have 200 A 440V 4 pole MCCB for control of input Power Supply.
- PDP shall have 3 Phase TPN input bus bar (one input and 5 outputs through 4 pole industrial MCBs).
- PDP shall have 100 A, 3 Phase 4 pole UPS bypass changeover switch (two input and one output).
- PDP shall have 3 Phase TPN output busbar (one input and 6 outputs through 4 pole industrial MCBs).
- PDP shall have provision of digital Voltmeter, CT based digital current meter, phase indicator and double earthing connection points.
- SDB shall have one incoming power supply controlled by 4 pole industrial MCB and outgoing power supply shall be connected to all Racks to meet the requirement of all supplied equipment, controlled by suitable industrial MCBs with 30% spare capacity to connect additional load in future. SDB shall have provision of double earthing connection points.
- Bidder shall affix permanently in a conspicuous position a danger notice in Hindi and English adequate number of Danger/Caution board on all the PDP/SDB etc. to effectively warn individuals of high-voltage electrical hazards and promote safety.
- Successful bidder shall submit schematic diagram in advance before installation of PDP and SDB for approval

5.7.3 Mains Distribution Units (MDU)

- Every rack should have minimum two nos. of Mains Distribution units (MDUs) with sequential delayed output on start up, output status LED and IEC-3 pin for each equipment installed in the rack. Each MDU shall have inbuilt or external, dual input, single phase automatic power transfer/static switch.
- All Equipment which have dual power supply unit shall be connected directly from both MDUs

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SATD/ Compression_Monitoring_Power Supply_Pitampura_Delhi / May-26

Himanshu Goel
Himanshu Goel
 Dy. Director General (E)
 DG : Doordarshan
 New Delhi-110001

Sl. No.	Parameter	Specification
1	No. of fused outlets with IEC 3-Pin Connectors in each MDU	12 nos. or more
2	Primary Power Supply	220/240 VAC nominal, Single phase, (50 $\pm$ 2)Hz
3	Current (Max)	16 Amp

5.7.4 Earthing System

- Earth pits should consist of Copper Earth electrode (diameter 20 mm (min)), insulated copper strip/wire (75 Sq. MM (Min)), Chemical earth fill compound with fast discharge characteristics, water absorbing gel, perforated Hard HDPE pipe (diameter 40 mm (min)), funnel, water supply provision upto each earth pit (preferably from A/c condenser), 10 feet depth (min) and 1 feet diameter (min.). Earth pit should be prepared so that earth resistance is less than 1 ohms -typical depth of earth pit is 10 feet minimum. (Sample picture is enclosed at DRG No. 9)
- All earth pits shall be extended upto Earth terminals with insulated copper strip (75 Sq.mm (Min)) in their respective equipment room i.e. Power Supply room, Compression room and Porta-cabin. All equipment rack shall be directly connected to Earth Terminals with insulated multi strand copper wire (25 sq mm (Min)) with copper lugs at both ends.
- The earth resistance should be less than 1 ohm. In case of hilly terrain/Rock area, etc., if earth resistance of new pit is more than 1 ohm, Bidder shall make upto four similar earth pits and connect it parallel to achieve minimum possible earth resistance.

5.8 Training-

Five separate Seminars (including theoretical & Practical training, hands on experience) for Doordarshan personnel at site. Atleast , One working day Training of each module shall be delivered by the factory Engineer/personnel of OEM.

(This training period is not part of Delivery period is not part of Delivery Period)

- Base Band Equipment
- Digital Compression System including NMS
- Modulator System including Redundancy Switch
- Monitoring Equipment
- Power Supply System

Himanshu Goel

Himanshu Goel
Dy. Director General (E)
DG : Doordarshan
New Delhi-110001

Physical, Environmental and Mechanical Specifications

6.1 Power Supply :

Equipment shall operate from a wide range of power supply voltages without interruption or damage.

6.2 Environmental Specifications

S. No.	Parameters	Specification
1	Operating Temperature (Indoor)	10°C to 35°C
2	Storage Temperature	-10°C to 60°C
3	Humidity (Indoor)	5 to 85% non-condensing
5	Altitude	2 to 1000 m

6.3 Mechanical Specifications

S. No.	Parameters	Specification
1	Construction	Modular approach, EIA RS-310C, 19" rack mount
2	Cooling	Internal circulation fan wherever applicable
3	Mounting	Equipment shall be rack mounted and required number of racks shall be supplied pre-wired to house all the supplied equipment.

7 Complement of Equipment:

- The make and model/part no. of each and every equipment/item/installation material etc. should be clearly mentioned in the offered Bill of Material (BOM).
- The suggestive Bill of Material (BOM) has been provided in **Annexure-I of Appendix-D**. The bidder is required to provide the complete list of equipment, software and accessories etc. offered to meet the requirement as per DD specifications. The quantity of each item including sub-module, licenses etc. are to be specified clearly and compulsorily, failing which the bid is liable to be rejected summarily. The following is the proforma for the BOM:

Sr. No.	Description of the item as per specification (suggestive BOM)	Description of items offered by bidder	Quantity as per suggestive BOM	Quantity offered by the Bidder	Make Offered	Model Offered
1.	2.	3.	4.	5.	6.	7.

- The bidder should provide the offered un-priced Bill of Material in electronic form with the priced bid for ease of technical evaluation.

8 General

8.1 Compliance and OEM Authorization

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- a) Bidder must submit a duly signed (with name and designation of signatory), point-by-point compliance statement, on the Bidder's letterhead, in respect of all the points, sub-points and Paras laid down in this specification from page 1 in the format as indicated below along with bid.

Sr. No. of DD specs.	DD specs.	Compliance (Yes/No)	Performance fig. of equipment offered.	Deviations, in case of non-compliance	Optional items if any required to make the system Compliant to DD specs.	Features in the system offered Which exceed DD specs.	Page No.	Remarks
1	----							
2	----							
3	----							

- b) In addition to the above, compliance from respective OEMs (not from their Indian representatives) duly signed (with name and designation of signatory) by the OEM on the OEM letterhead, in respect of the equipment as listed below should necessarily be given, in respect of all the points, sub-points and paras laid down in the Technical Specification of the respective equipment in the format as given above. The OEM should necessarily record the performance figure of the equipment offered in the quote for which the compliance statement is required.

A	Input Receive System
1.	L Band Router
2.	Demodulators (IRD)
B	Digital Compression System
1.	Encoder
2.	IP Encapsulator cum Multiplexer
3.	Network Management System (NMS)
C	Monitoring system
1.	08 Channel Audio/Video Monitor
2.	16x16 SDI Router
3.	20 Channel Multi viewer
4.	RF Decoder
5.	Video logger System
6.	Fire wall System
D	Power Supply System
1.	UPS system including Battery Bank

- c) Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.

Handwritten signatures and initials:

Signature 1: [Handwritten signature]

Signature 2: [Handwritten signature]

Signature 3: [Handwritten signature]

Signature 4: [Handwritten signature]

- d) The compliance statement in respect of Technical Specifications of the equipment should be supported by highlighted record of these in the relevant technical literature/data sheets of respective equipment enclosed with the tender and a clear reference (with volume number and page number of tender documents) to the attached supporting document should be given in the remarks column against each & every specs. Any offer without proper supporting document of each & every specs and containing only a commercial hand out/pamphlet is liable to be rejected.
- e) Data sheets in respect of all offered equipment should be submitted. Any deviation from the specification detailed in the compliance statement is to be highlighted separately. Page no. of location of data sheet should be given in page no. column of the compliance statement.
- f) Offers without proper & duly completed compliance statement are likely to be rejected with the sole responsibility of bidder and no further claim/correspondence will be entertained.
- g) The bidder is also required to submit authorization in respect of the equipment as listed above at Sl. No. 8.1(b) in their favour from respective OEMs (not from their Indian representatives) on their letter heads along with the bid **as prescribed in Annexure II of Appendix-D.**

8.2 Documentation:

- a) One set of technical manual for all the equipment are to be provided along with the tender to facilitate the technical evaluation, otherwise the tender is liable to be ignored.
- b) The successful bidder will have to supply set of printed technical & user manuals along with factory test report of all the offered equipment.
- c) Operation Manual for all equipment should also be supplied on DVD/USB with search facility.
- d) All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or any end of life of the software. Software upgrades within warranty period should be supplied free of cost. All software backups should also be supplied on DVD/USBs.
- e) For facilitating maintenance issues, the bidder must submit the firm's self certified copies of Bill of Entry/Bill of Laden/Custom Invoice of all imported items to DG:DD.

8.3 Guarantee/Warranty and After Sales Support:

The Guarantee, warranty of material and workmanship will be covered by General Terms and Conditions (GTC) at APPENDIX-B of the Bid document except the following:

- a) Guarantee/Warranty period for all equipment supplied will be as follows:
Three years from the date of Commissioning.
- b) Any part failing during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/ dealer who will

Guarantee/Warranty

arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.

- c) It is the responsibility of local office/ Authorized representative/ dealer of the bidder to arrange the repair/ replacement of faulty items for Doordarshan i.e. no transportation charges would be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
- d) Guarantee / Warranty period of the respective equipment shall be extended, corresponding to the outage period from the date of acceptance,
 - i) if the failure rectification takes more than 30 days for equipment which needs to be sent back to out of India or needs to import spares for fault rectification. To exercise to this clause, Documentary proof like shipment/import documents etc. is required to submit as proof of import of equipment/spares for fault rectification.
 - ii) if the failure rectification takes more than 15 days for equipment which does not need to be sent back to out of India or to import spares for fault rectification.

8.4 Inspection and Commissioning:

The inspection of material will be carried out by the authority specified in the Purchase order. The material will be accepted only after the same has been found satisfactory after inspection and duly marked and sealed by the Inspection Authority. In addition to "General Terms and Conditions" (GTC) at Appendix-B of the Bid document, the inspection of material/equipment will be carried out as follows:

- 8.4.1 All the equipment to be supplied against this A/T (Purchase Order) for this tender shall be subjected to pre-installation inspection at Doordarshan Site by Doordarshan Officer appointed by Doordarshan Directorate. The pre-installation inspection shall be based on manufacturer's factory test results and physical verification of make and model of equipment. The successful bidder should produce the factory test reports of the offered equipment to facilitate inspection.
- 8.4.2 Post installation inspection and commissioning of the system will be carried out by a team of Doordarshan Officers authorized by Doordarshan Directorate and based on approved Acceptance Test Procedure (ATP).
- 8.4.3 A draft copy of ATP (Acceptance Test Procedure) must be submitted by the successful bidder one month in advance of the proposed date of inspection of the installed system to Doordarshan Directorate for approval. ATP should describe the standard test procedure of individual equipment and overall system. The factory test report will not be treated as ATP.
- 8.4.4 The approved ATP with or without changes shall be sent back to the successful bidder to be used for inspection and commissioning of the installed system by DD Engineer(s) at site. All the equipment required for the inspection as per the approved ATP are to be provided by the successful bidder.
- 8.4.5 The SITC certificate will be issued by the team of Officers appointed at S.N. 8.4.2 above

8.5 Delivery Period:

Delivery Period for SITC of all equipment will be FOUR months from the date of issue of purchase order (A/T)

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8.6 Pre-Bid Conference:

- a) A pre bid conference on technical Specifications and other issues shall be held on date and time specified in the NIT. All prospective bidders may attend the pre bid conference to discuss their queries and suggestions.
- b) All the queries and suggestions should be sent to Doordarshan at least 2 days before the date of pre bid conference. No queries/ suggestions shall be entertained after pre bid conference.
- c) Amendments subsequent to the pre bid conference shall be sent to prospective bidders, who have purchased tender document by e-mail/fax/post/uploaded on website.
- d) It shall be bidder's responsibility to check for any amendments/addendum on the website before submitting their duly completed bids.

8.7 Check List and Enclosures:

The bidders may ensure the following check list while submitting the bid including some important list of enclosures for ease of technical evaluation (**Annexure V of Appendix-D**).

- a) Whether documents related to fulfilment of the eligibility criteria as per Clause 3 have been submitted.
- b) Whether the BOM has been submitted in the prescribed format as given in Clause 7.
- c) Ensure that all equipment and accessories as given in Annexure-1 have been included in the offered BOM.
- d) Whether the compliance statement from the bidder as required in Clause 8.1 (a) has been submitted.
- e) Whether the compliance statements from the respective OEMs for equipment/system mentioned in Clause 8.1 (b) have been included.
- f) Whether the Authorization as required vide clause no. 8.1(g) in respect of equipment as mentioned in Clause 8.1 (b) from respective OEMs have been included.
- g) Ensure that the relevant technical brochures/manuals containing all the parameters of technical specifications of all the offered equipment and accessories have been included with proper indexing for ease of identification.
- h) Whether the page numbers of the relevant enclosed technical data sheet/manual against each parameter of the technical specifications have been given in the compliance statements.
- i) Whether the requisite undertakings for guarantee/warranty and after sales support by OEMs as required vide Clause no. 8.3 have been submitted.
- j) Ensure that no alternate item has been offered.
- k) Ensure that the Un-priced BOM has been included.
- l) Any other item mentioned elsewhere in the tender.

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(Signature)

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OEM LETTER HEAD

CERTIFICATE FOR AUTHORIZATION

Date:

Tender No. :

We, M/s (Name and Address of the OEM), do hereby authorize M/s.....(Bidder's name), having its office at (Bidder's address) to submit the bid and sign the contract with Doordarshan for the products offered by us against the above tender.

Signature
Name & Designation of authorized signatory.....
Name of the OEM -
Stamp

Simash

[Signature]

[Signature]

[Signature]

OEM LETTER HEAD

CERTIFICATE FOR GUARANTEE/WARRANTY

Date:

Tender No. :

We, M/s (Name and address of the OEM), do hereby confirm that:

1. All the offered equipment shall be guaranteed against any defect for a period of 3 **(THREE)** years from the date of Commissioning.
2. Any part failing during the Guarantee/Warranty period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective equipment during Guarantee/Warranty period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/ dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
3. It is the responsibility of M/s -----, (their local office/ Authorized representative/ dealer of the bidder) to arrange the repair/ replacement of faulty items for Doordarshan i.e. no transportation charges would be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the Guarantee/Warranty period.
4. Guarantee/Warranty period of Equipment or spare parts thereof replaced is to be extended corresponding to the outage period from the date of acceptance, if the failure rectification takes more than 15 days or 30 days time as applicable.
5. All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying end of life of the software. Software upgrades within Guarantee/Warranty period will have to be supplied free of cost.

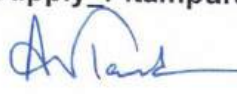
Signature

Name & Designation of authorized signatory.....

Name of the OEM-

Stamp






OEM LETTER HEAD

CERTIFICATE FOR AFTER SALES SERVICE SUPPORT

Date:

Tender No. :

We, M/s (Name and address of the OEM), do hereby confirm that after sales service support for additional **Two (2) years** for the repairs/maintenance of offered products after the completion of **THREE (3) Years** guarantee/ warrantee period shall be provided through our representatives/authorized dealer/service provider through CMC on additional Cost for the offered equipment and accessories in India as mentioned below:

S. No.	Name of the authorized person	Name & Address of authorized After Sales & Support Office/Firm	Telephone/ Fax	Email of concerned personnel
1				

Signature

Name & Designation of authorized signatory.....

Name of the OEM-

Stamp






BIDDER LETTER HEAD

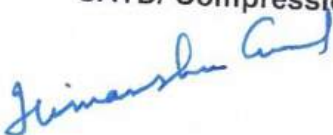
DECLARATION BY THE BIDDER

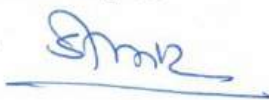
1. Bill of Material (BOM)- : [Yes/No]
2. Bidder's compliance (As per specs clause no. 8.1.(a)) : [Yes/No]
3. The copy of Dealer Possession License in case of possession of RF equipment (if applicable) : [Yes/No]
4. Copy of the Memorandum of Understanding (MOU) of Consortium/Joint Venture (If Applicable) (as per clause no. 3.9) : [Yes/No]
5. OEM Compliance for following equipment from their respective OEMs (as per clause no. 8.1.(b)):

S. No.	Name of equipment	Name of OEM	OEM compliance submitted (Yes/ No)
i			
ii			
.			
.			

6. Certificate for Authorization for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Authorization certificate submitted (Yes/ No)
i.			
ii.			
iii.			
.			
.			



7. Certificate for Guarantee/Warranty for following equipment from their respective OEMs:

S.No	Name of equipment	Name of OEM	Guarantee certificate submitted (Yes/ No)
i.			
ii.			
iii.			
.			
.			
.			

8. Certificate for After sales service support for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	After sales service support certificate submitted (Yes/ No)
i.			
ii.			
iii.			
.			
.			
.			

9. Datasheet for the offered equipment as per offered BOM: [Yes/No]

i.

ii.

iii.

Signature

Name & Designation of authorized signatory

Name of the Bidder -

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BIDDER's LETTER HEAD

CERTIFICATE FOR WORK EXPERIENCE

Date:

Tender No. :

We, M/s <Name and address of the bidder>, do hereby confirm that details of Work Experience are as follows:

S. No.	Description of Work Experience of the Bidder	Details of Work Order No. with date	Copy of Work Order uploaded with bid (YES/NO)	Sr. No. of work/item of the uploaded work order to be considered for work experience of the bidder	Amount /Value in Rupees of the work to be considered for work experience of the bidder	Bidder's Work Experience Category (Please select anyone option i.e. (a)One work of 80% or (b)Two work of 60% or (c)Three work of 40% of Estimated Cost)
1						
2						
3						

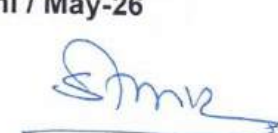
Signature

Name & Designation of authorized signatory of the Bidder.....

Name of the Bidder.....

Stamp of the Bidder



LIST OF TOOLS

S. No.	Tools	Qty.
(1)	Soldering and de-soldering station	1 Set
(2)	T-Handle Hex Allen Keys Set	1 Set
(3)	Flat & Star Head Screw driver Set	1 Set
(4)	Flat & Star watch maker Screw Driver Set	1 Set
(5)	Flat Plier	1 No.
(6)	Nose Plier	1 No.
(7)	Edge Cutter	2 No.
(8)	Wire Stripper	1 No.
(9)	Crimping Tool for RG11 and RG59U Cable	1 No.
(10)	Crimping Tool for RJ11 and RJ45 Cable	1 No.
(11)	BNC Puller	1 No.
(12)	Crimping Tool for Power Cable	1 Set
(13)	Box Spanner Set	1 Set
(14)	D-Spanner Set	1 Set
(15)	Ring Spanner Set	1 Set
(16)	Adjustable Wrench	1 No.
(17)	File Set	1 Set
(18)	Handheld Magnifying Glass	1 No.
(19)	Toolkit Box (Hard case type)	1 No.
(20)	Battery operated multifunctional (screw, unscrew, drilling etc.) hand machine with battery charger and other accessories.	1 Set
(21)	Digital Multimeter	1 No.
(22)	Digital clamp-on Meter	1 No.
(23)	Handheld Ethernet tester	1 No.
(23)	Any other special tool required as per offered equipment	1 Set
(24)	RJ45 Crimping Tool, Wire Stripper & Cable Cutter, Network Cable Tester	1 Set

SATD/ Compression_Monitoring_Power Supply_Pitampura_Delhi / May-26

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Himanshu Goel
Himanshu Goel
 Dy. Director General (E)
 DG : Doordarshan
 New Delhi-110001

Shailesh Kumar Kanauje
SHAIKESH KUMAR KANAUIE
 उप महानिदेशक/Deputy Director General

DR JATAV
DR JATAV
 Deputy Director (Engineering)
 उप महानिदेशक (अभि.)
 Deputy Director General
 New Delhi-49

SITC of Upgradation of Compression chain, Monitoring and Power supply system of C-band Earth Station, Pitampura Delhi

Sl. No	Description of Item as per Specification SATD/ Compression_Monitoring_PowerSupply_Pitampura_Delhi / May-26 (Suggestive BOM for Earth Station Pitampura)	Description of the item offered by the bidder	Make	Model	Qty
A	INPUT AND BASE BAND SYSTEM (DRG No. 1)				
1	L Band (8x32) Fan Out Router with dual redundant power supply consisting of :				
a	Base unit fully loaded for - Inputs : 8 Nos. Output : 32 Nos.				1 Sets
b	Dual Redundant Power supply unit				
c	Necessary power supply to LNBCs (One set with Router)				
d	Low loss RF cable and matching "F/BNC" type connector with Gold plated pin as per site requirement From new Patch Panel to 8x32 Router to Demodulators.				1 lot
2	4x RF Input Demodulator (1+1) Redundancy for Each DownLink Channel with Chassis Redundancy for 14 Services.				
a	Demodulator with - Input : 4x L-band Ports Output : Over 02 Nos. of RJ-45 Ports, MPEG-2 TS over IP with Multi service filtering facility Common Interface slot hardware, BISS mode-1 & BISS-E Compliant). With Control Port : RJ-45.				08 Nos.
b	Low loss RF cable and matching "F" type connector with Gold plated pin as per site requirement to be connected from L-Band PP to L Band Router to IRDs as per DRG No. 1)				1 Lot
3	IP Data Switches and Network Switches consisting of:				
a	(1+1) IP Data Switch 48 port with inbuilt dual power supply unit, rack mounting kit and required Software Licenses. (2 Nos. per set)				1 Set
b	IP Network Switch 48 port with inbuilt dual power supply unit with rack mounting kit and required Software Licenses.				1 No.
c	CAT-6 Cable with connector for wiring of rack and interconnection between - (i) IRD & both IP Data Switches, as per site requirement. (ii) IRD & Network Switch as per site requirement and drawing no 1. Min. 5 mtr. x 28 nos. x 3 nos. =420 meters				1 Lot
4	Essential items/works (If any) to complete the installation of Input and baseband system Note: If offered, bidder must provide the detail				1 Set
5	Installation , testing and integration of Input and Baseband system				1 Job
B	Compression System (DRG No. 1 & 2)				
6	1+1 Digital Encoder/Transcoder for 10 SD and 04 HD Configurable with Fully Compatible HW to support all the available options, having 80% (Max.) CPU loading.				

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a	Digital Encoder/Transcoder with TS Over IP Inputs 16 HDTV/SDTV channels in H.264/MPEG-4 compression & H.265/HEVC compression without any limitation by way of hardware & software upgradation. The Encoder/Transcoder shall be capable to take MPEG-2 TS over IP input and decode & re-encode SD & HD TV channels as per technical specification of tender document without any limitation by way of hardware & software upgradation. Noise reduction hardware/software for SD & HDTV, Four stereo audio channel including Dolby Digital (AC-3) 5.1 audio (Decoding & Encoding) & Dolby Digital Plus 5.1 audio (decoding & Encoding) with audio level processor & loudness control, logo inserter, Ancillary data and Dual redundant power supply units for all Encoder.				01 Set
7	IP Data and Network Switches Consisting of:				
a	(1+1) IP Data Switch 48 Port, 4 VLAN with inbuilt dual power supply unit, rack mounting kit and required Software Licenses (2 Nos. per set)				1 Set
b	IP Network Switch 48 Port with inbuilt dual power supply unit with rack mounting kit and required Software Licenses.				1 No.
c	CAT-6 Network Cable with connectors for wiring of rack and interconnection between (i) Encoders & both IP Data Switches, (ii) Encoders and IP Network Switch as per site requirement and drawing no 2. Min. 5 mtr. x 40 nos. x 3 nos. =600 meters				1 Lot
8	IP Statistical Multiplexing in (1+1) configuration consisting of:				
a	IP Encapsulator cum Mux in (1+1) configuration for Static Multiplexing having: at least Six Independent IP data Port (bi-directional) with licenses (for Input data, Independent MPEG-2 TS over IP Output for transmission, Ancillary data, Control & Management)				01 Set
9	1+1 Network Management System (NMS/AMS) for Compression equipment consisting of:				
a	Compression equipment control system Software				1 Set
b	Compression equipment control system Hardware consisting of rack mounted main server in 1+1 master-slave configuration or Cluster configuration with client license, each server with dual power supply modules; and KVM switch, Integrated Key Board, mouse & rack mount foldable display monitor.				1 Set
c	Client work station with required licenses for remote monitoring of all NMS consists of: 17" or bigger display, keyboard with PC (Intel i7 or better processor, 8 GB or More DDR RAM, 800 GB or more HDD, Windows 11 or latest operating system, minimum 4 nos. USB ports, 1 AGP and 3 PCI Slots, Integrated Audio with external speakers to remotely control all the supplied equipments through Ethernet ports				3 Sets
d	24 port IP Network switch for NMS monitoring with Client Work station in remote locations				3 Sets
e	CAT-6 Cable with connector as per site requirement to connect the NMS with respective equipment as per drawing no. 2 (Min 48x10 meter=480 meter per set)				1 Lot
10	Essential items/Works (If any) to complete the installation of Compression system Note: If offered, bidder must provide the detail				1 Set
11	Installation, testing and integration of Compression system				1 Job
C	Digital Satellite Modulators in (1+1) mode consisting of:				
12	Digital Satellite Modulators capable of Modulating in DVB-S and DVB-S2				2 Nos.
13	IF Redundancy switch for managing redundancy of above Modulators.				1 No.
D	Firewall system				

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14	Firewall system along with Indoor type CAT-6 Cable with connector as per site requirement				1 Set
E	Monitoring System (DRG No. 3, 4)				
	Confidence Monitoring				
15	17 Inch (Nominal) LCD (TFT) Professional Broadcast Colour Monitor with integrated speakers (Refer Drawing no. 3 & 4)				1 No.
16	Professional grade Integrated Audio/video Monitor with $\geq 4"$ TFT/LCD screen of high resolution and integrated speakers. It should accept 2 HD/SD-SDI Inputs with reclocked output, including audio De-Embedder, decoding of Dolby digital (AC-3) 5.1 audio and Dolby Digital Plus 5.1 Audio (Refer Drawing no. 3 & 4)				01 No.
17	Prof. IRDs {with L-band inputs of DVB-S & DVB-S2, DVB-ASI & IP input} with DVB-ASI, SD-SDI, HD-SDI, AES/EBU, HD-SDI embedded audio, SD-SDI embedded audio, One downconverted SD-SDI of HD-SDI, Dolby digital (AC-3) 5.1 audio & Dolby Digital Plus 5.1 Audio (E-AC-3) output, MPEG-2 TS over IP output with Multi service filtering facility and having 4:2:0 & 4:2:2 compliant for MPEG-2, H.264/MPEG-4-AVC and 4:2:0 compliant for H.265/HEVC decoding and Common Interface slot hardware, BISS mode-1 & BISS-E Compliant (Refer Drawing no. 3 & 4)				01 No.
18	Prof. IRDs {IP input} with DVB-ASI, SD-SDI, HD-SDI, AES/EBU, HD-SDI embedded Audio, SD-SDI embedded audio, One downconverted SD-SDI of HD-SDI, Dolby digital (AC-3) 5.1 audio & Dolby Digital Plus 5.1 Audio (E-AC-3) output, MPEG-2 TS over IP output with Multi service filtering facility and having 4:2:0 & 4:2:2 compliant for MPEG-2, H.264/MPEG-4-AVC and 4:2:0 compliant for H.265/HEVC decoding and Common Interface slot hardware, BISS mode-1 & BISS-E Compliant. (Refer Drawing no. 3 & 4)				3 Nos.
19	16x16 HD-SDI/ASI Router with one X-Y pannel, one Single Bus Remote Control Panel, dual Redundant power supply and accessories				1 Set
20	24 Port HD-SDI/ASI Patch Panel, 75 Ohm Impedence as per DRG no. 3 & 4. (IRU, Normal Through, self terminating type)				02 Nos
21	High Quality Digital Ampli-Speaker having digital AES/EBU and analog Audio Input facility and suitable power supply				02 Nos
22	08 Channel Professional Audio Monitor				1 No.
23	8 port RF Patch Panel (Refer Drawing no. 3 & 4)				2 Sets
24	12 port IP Patch Panel (RJ-45)				1 Set
25	IP Patch cord with connector (RJ-45)				2 Sets
F	Input and Downlink Monitoring of SDTV and HDTV Channels consisting of:				
26	20 CH Multi viewer display system with remote panel for MPEG-2 TS over IP streams of Input Source signal . Each set shall have inbuilt MPEG-2 & MPEG-4 decoders of 10 SDTV with emmbedded audio + MPEG-4 & HEVC Main-10 decoders of 04 HDTV with Dolby Digital (AC-3) 5.1 audio & Dolby Digital Plus 5.1 audio Channels with two independent video display output; and 6 Radio Service as per drawing no. 5.				1 Set
27	20 CH Multi viewer display system with remote pannel for MPEG-2 TS over IP streams of Down link signal . Each set shall have inbuilt MPEG-2 & MPEG-4 decoders of 10 SDTV with emmbedded audio + MPEG-4 & HEVC decoders of 04 HDTV with Dolby Digital (AC-3) 5.1 audio & Dolby Digital Plus 5.1 audio Channels with two independent video display output ; and 6 Radio service as per drawing no. 4.				1 Set

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28	Work station with software licences including one client Licence for controls and configuration of Display on 55" Display system consists of: 17" or bigger display, keyboard with PC (Intel i7 or better processor, 8 GB or More DDR RAM, 800 GB or more HDD, Windows 11 or latest operating system, minimum 4 nos. USB ports, 1 AGP and 3 PCI Slots, Integrated Audio with external speakers to remotely control all the supplied equipments through Ethernet ports				1 Set
29	55 inch (nominal) LED display system with wall mount kit, cables and associated accessories.				02 Nos
30	2x (1+1) RF De-Modulator (DVB-S & S2) MPEG 2 TS over IP output for 10 SDTV, 04 HDTV service and 6 Radio services.				01 Set
31	24 Channel video logger with minimum 90 days content storage facility and required software & licenses				1 Set
32	C - band receive antenna 120 cm with C band Feed & LNBC, Installation , including Foundation (Material and labour), connecting Earthing etc.				2 Sets
33	RF cables as per site requirement (minimum 150 mtrs)				1 Lot
34	IP Data Switch 48 port with inbuilt dual power supply unit, rack mounting kit and required Software Licenses				1 Set
35	10 /100 Network Switch (24-Ports, one -RU) (Refer Drawing No. 3 & 5)				2 Nos.
36	19" Rack Mountable Foldable 17" or bigger display, keyboard (with Digipad & Mouse Switches) with PC (Intel i7 or better processor, 8 GB or More DDR RAM, 800 GB or more HDD, Windows 11 or latest operating system, minimum 4 nos. USB ports, 1 AGP and 3 PCI Slots, Integrated Audio with external speakers to remotely control all the supplied equipments through Ethernet ports and should be connected to all the equipment through Fast Ethernet Switch using properly rack wired CAT-5 or CAT-6 cable and RJ-45 connectors. (Refer Drawing No. 3 & 5)				1 Set
37	HD-SDI Video cables with matching connectors for connection between patch panel, 16x16 router and all monitoring equipment as per site requirement and drawing no. 4 & 5 (Min 16x10 mtr=160 mtr per lot)				1 Lot
38	CAT-6 Cable with connector for wiring of rack and interconnection between 24 port network switch to all equipment as per drawing no. 4 & 5 (Min 24x10 mtr x 2=480 mtr per lot)				1 Lot
39	Essential item (if any) to complete the installation of Monitoring System Note: If offered, bidder must provide the detail				1 Set
40	Installation , testing and integration of Monitoring System				1 Job
41	Colour laser Printer with network printing facility for A4 size				1 Set
42	B/W laser printer with network printing facility for A3 size				1 Set
43	Essential item (if any) to complete the installation of Measuring System Note: If offered, bidder must provide the detail				1 Set
44	Installation , testing and system integration of Measuring System				Job
G	POWER SUPPLY SYSTEM (DRG No.)				
45	2X40KVA (3 Phase) Uninterrupted Power Supply (UPS) operating in (1 + 1) redundant parallel load sharing mode with Battery Backup LiFePO4 for each UPS. Internal isolation transformer will be provided at the output of each UPS, suitable rating (minimum 40KVA) consisting of:				1 Set
46	2x40KVA (3 Phase) Uninterrupted Power Supply (UPS)				1 Set
47	Audio Visual Remote Monitoring Pannel of UPS with cable				1 Set

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48	LiFePO4 Battery Bank (55000VAH min. actual VAH depends upon solution offered), Modular hot-swappable rack, SNMP + Modbus BMS, with each UPS				1 Set
49	Suitable Power distribution Panel (PDP) including MCCB, Industrial MCBs, Changeover Switch, Voltage & Current metering and bus bar as per drawing no. 7.				1 Set
50	3½ core armored aluminium LT Power Supply cables with suitable rating and lugs at both end from existing LT Panel of Mains/ DG AMF LT Panel to PDP as per Drg no. 7. Note: Cable length 45 Metres				1 Set
51	Coper Power Supply cables with suitable length and rating along with copper lugs at both end between: (i) PDP & Isolation Transformer (ii) Isolation Transformer & AVR (iii) AVR & PDP (iv) PDP & Input of UPS (v) Output of UPS & PDP (vi) PDP & SDB (vii) SDB 1 to 2 & all racks as per DRG No. 8.				1 Lot
52	SDBs with 4 pole industrial MCBs to meet the requirement of all supplied equipment with 30% (Nominal) spare capacity to connect additional rack load in future				02 Nos.
53	Supply, Laying and Integration of Power supply Cables (4 Core Copper) between (1+1) UPS PDPs and above said SDBs (Minimum length-20 mtr)				1 Set
54	Essential item (if any) to complete the installation of Power Supply System Note: If offered, bidder must provide the detail				1 Job
55	Installation, testing and integration of Power Supply System				1 Job
H MISCELLANEOUS ITEMS					
56	Control & operators table made of powder coated MS sheet or aluminium matching with existing table to install remote operations & control computer, digital waveform monitors, Picture monitors, monitoring panel with stereo Loud speaker and other relevant equipments.				1 Job
57	Preparation of site as per Specification clause 2.26 to 2.29				1 Job
58	Required no. of 19 " , 1000 mm (depth) equipment rack including Installation material, audio, video, RF cables etc with matching BNC HD connectors, CAT-6 cable with RJ 45 Connector.				02 Nos
59	Required no of Mains Distribution Units and Single Phase Auto Changeover Switch (Min 1 no. Single Phase Auto Changeover switch and 2 nos of MDUs per Rack with sequential delayed output on start up, output status LED and IEC-3 pin (for those equipment which have single power supply input) for each equipment in every rack.				04 Nos.
60	Industrial type 3 pin Male-Female connector as per site requirement				1 Set
61	i) Supply and installation of electronic thermometer inside on top and bottom & electronic hygrometere on top of each rack along with remote configuration and alarm monitoring system				1 Set
62	ii) 48 port IP switch for control of temperature and humidity				02 Sets
63	Earthing system and earth pits (Earth Resistance of each pit < 1 ohm)Sample picture is enclosed at DRG No.10				10 Nos.
64	Earth Terminal as per DRG.No 11				1 Lot
65	Installation material and laying of cables protection pipes				1 Job

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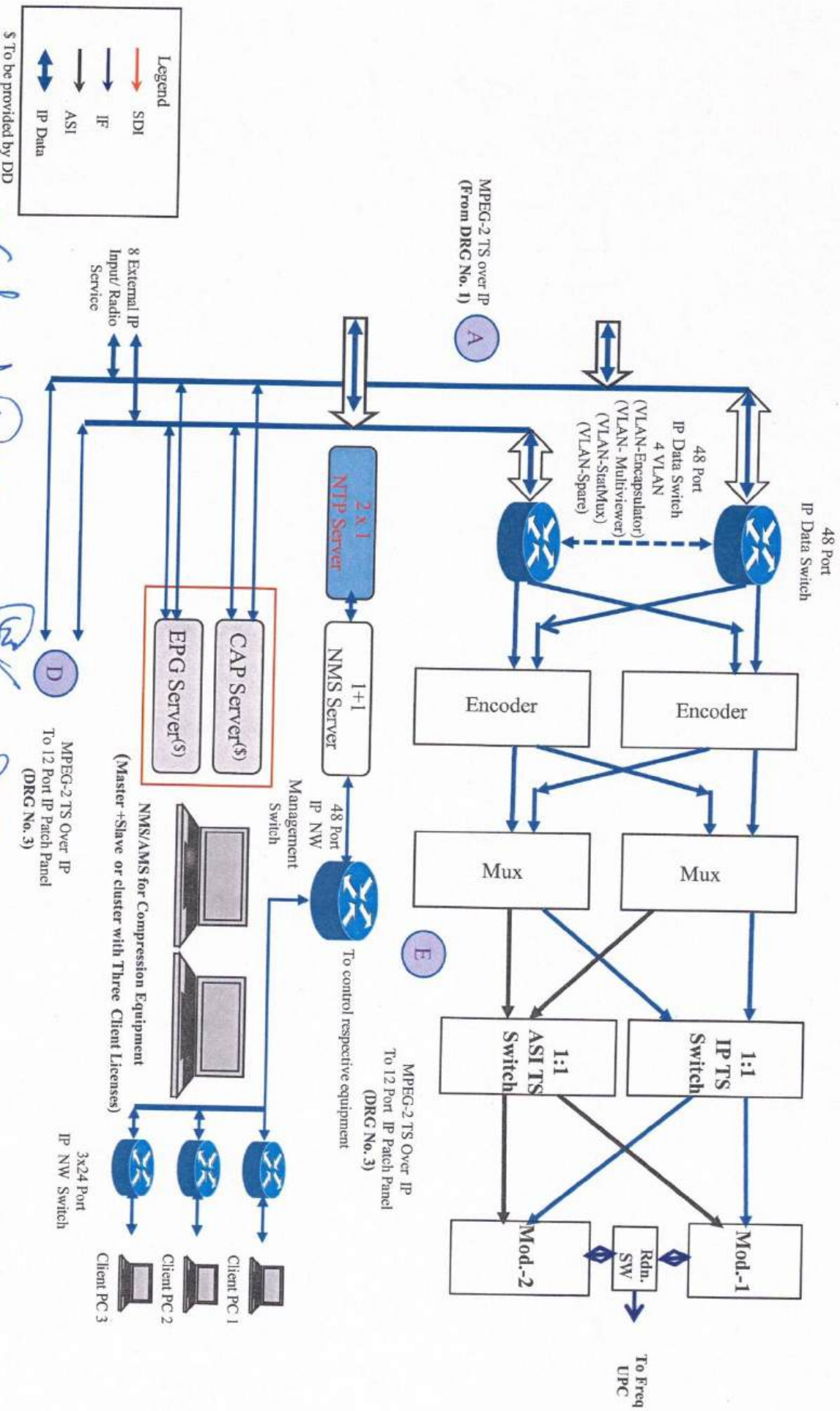
66	One raised platform/ trolley with wheel and braking arrangements to reach up to overhead cable tray				1 Set
67	Set of tools as per Annexure VIII of Appendix-D				1 Set
68	Integration, Testing & Commissioning of complete supplied system.				1 Job
I	DOCUMENTATION				
69	Technical manuals (Hard Copy) for all the equipment supplied				2 Sets
70	Technical manuals (Softcopy) for all the equipment supplied on USB with Search facility etc). (Technical Manual (Softcopy) is to be distributed as follows: 2 Set for the station, 1 Set for DG DD and 1 Set for ADG (NZ))				4 Sets
71	All software backups are to be supplied on USB.				2 Sets
J	TRAINING				
72	Five separate Seminars (including theoretical & Practical training, hands on experience) for Doordarshan personnel at site. Atleast , One working day Training of each module shall be delivered by the factory Engineer/personnel of OEM. (This training period is not part of Delivery period is not part of Delivery Period) (i) Base Band Equipment (ii) Digital Compression System including NMS (iii) Modulator System including Redundancy Switch (iv) Monitoring Equipment (v) Power Supply System				1 Job
73	Installation, Testing and Commissioning- Installation, testing and commissioning of all the equipments as per DRG.No.1,2,3,4 and 5 alongwith Dismantling the existing compression, monitoring & Power Supply equipment, if required.				1 Job

Simarshu

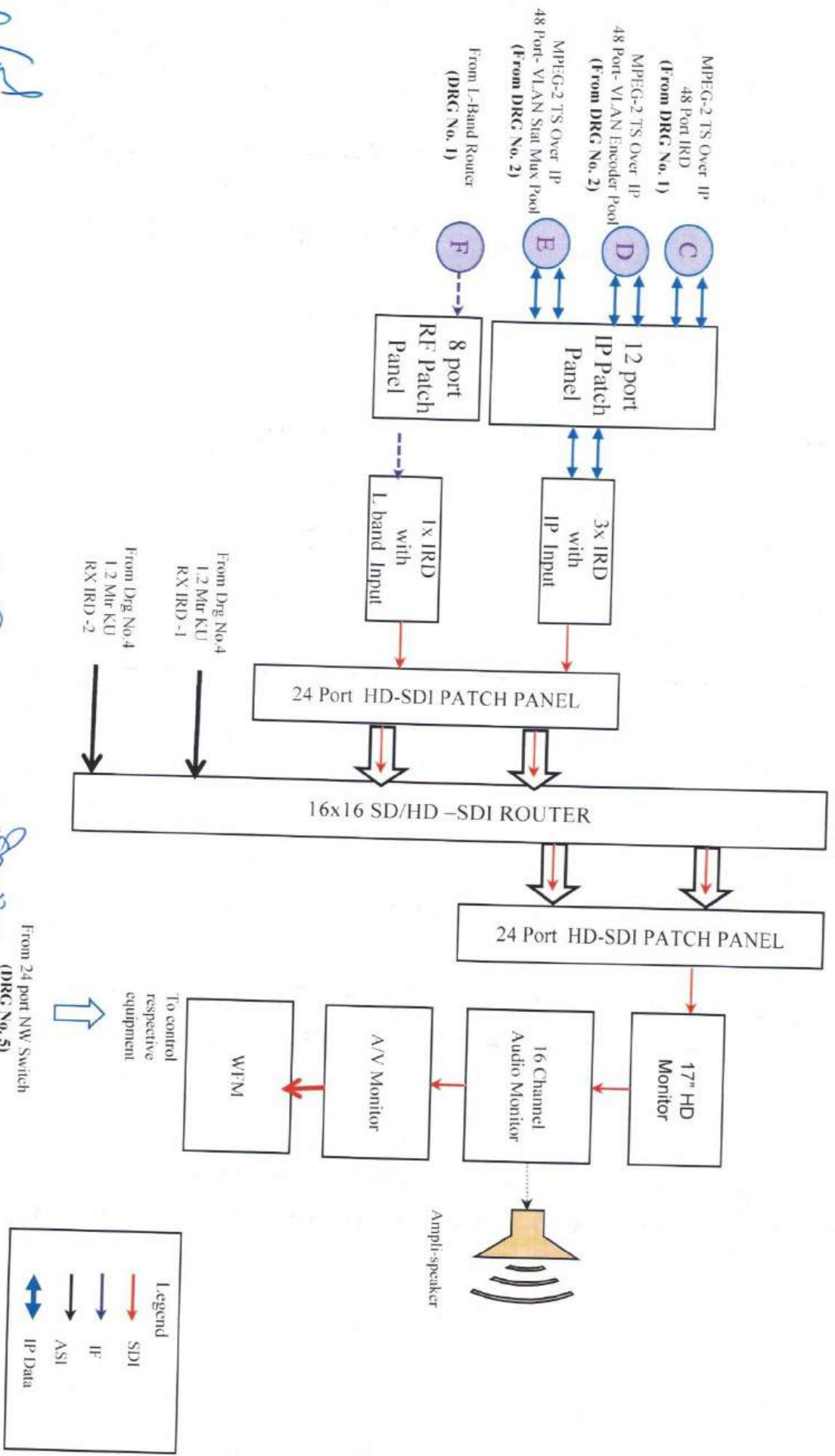
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Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring System at Earth Station Pitampura – (16 HDTV / SDTV + 08 Radio Compression System)



Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring System at Earth Station Pitampura – (Confidence Level Monitoring System)



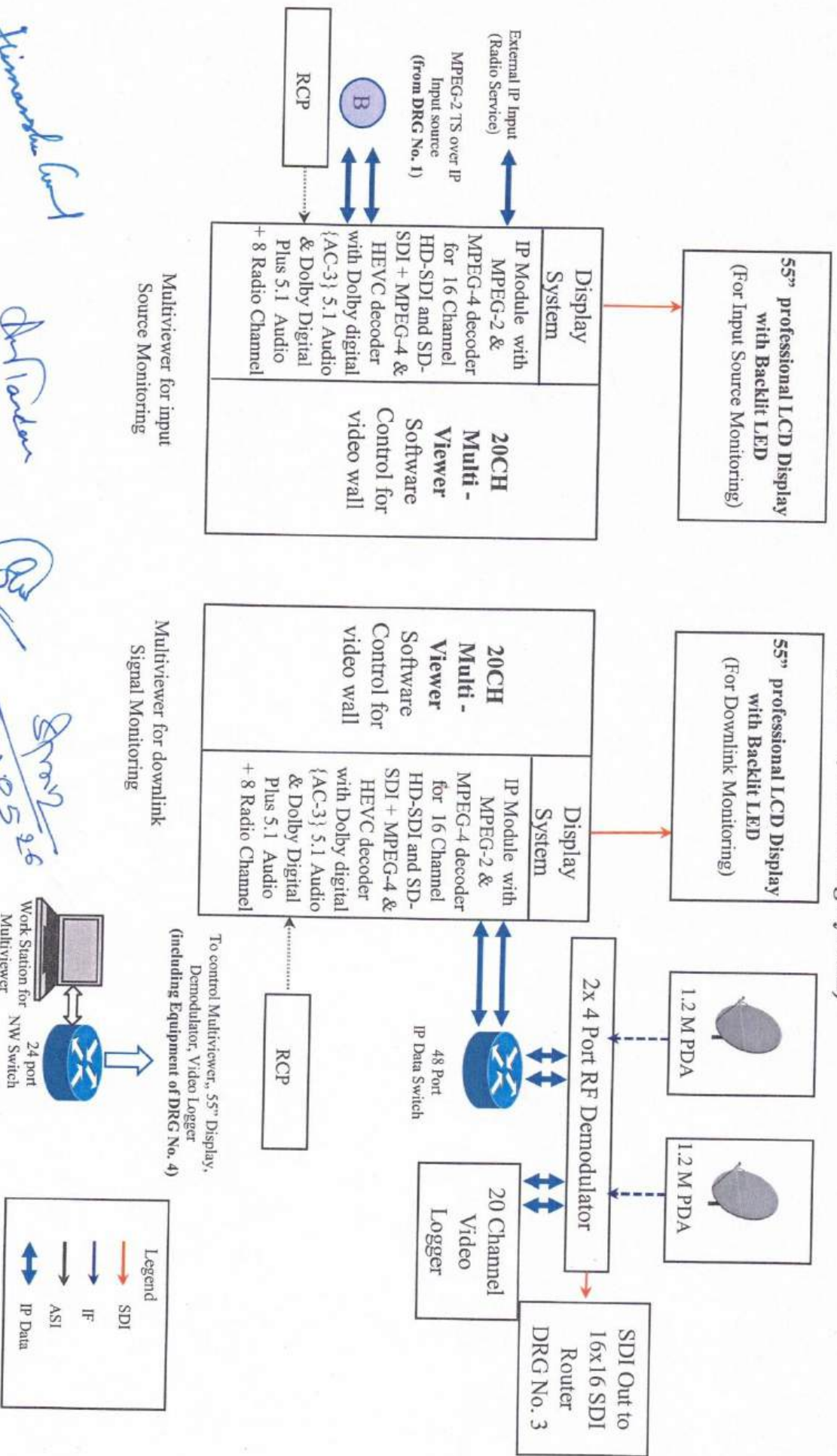
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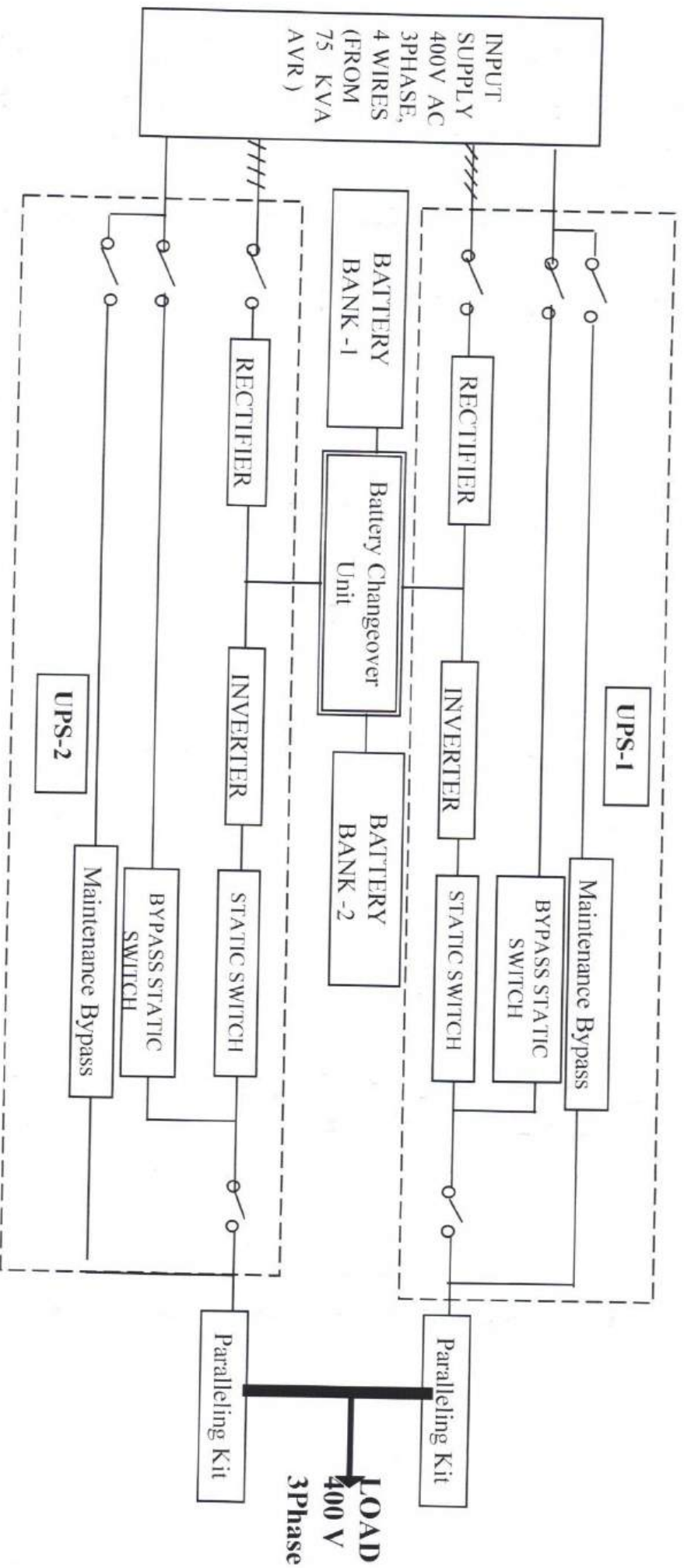
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Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring System at Earth Station Pitampura – (Monitoring System)



Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Single Line Diagram of Parallel Redundant 2x40 KVA UPS System)



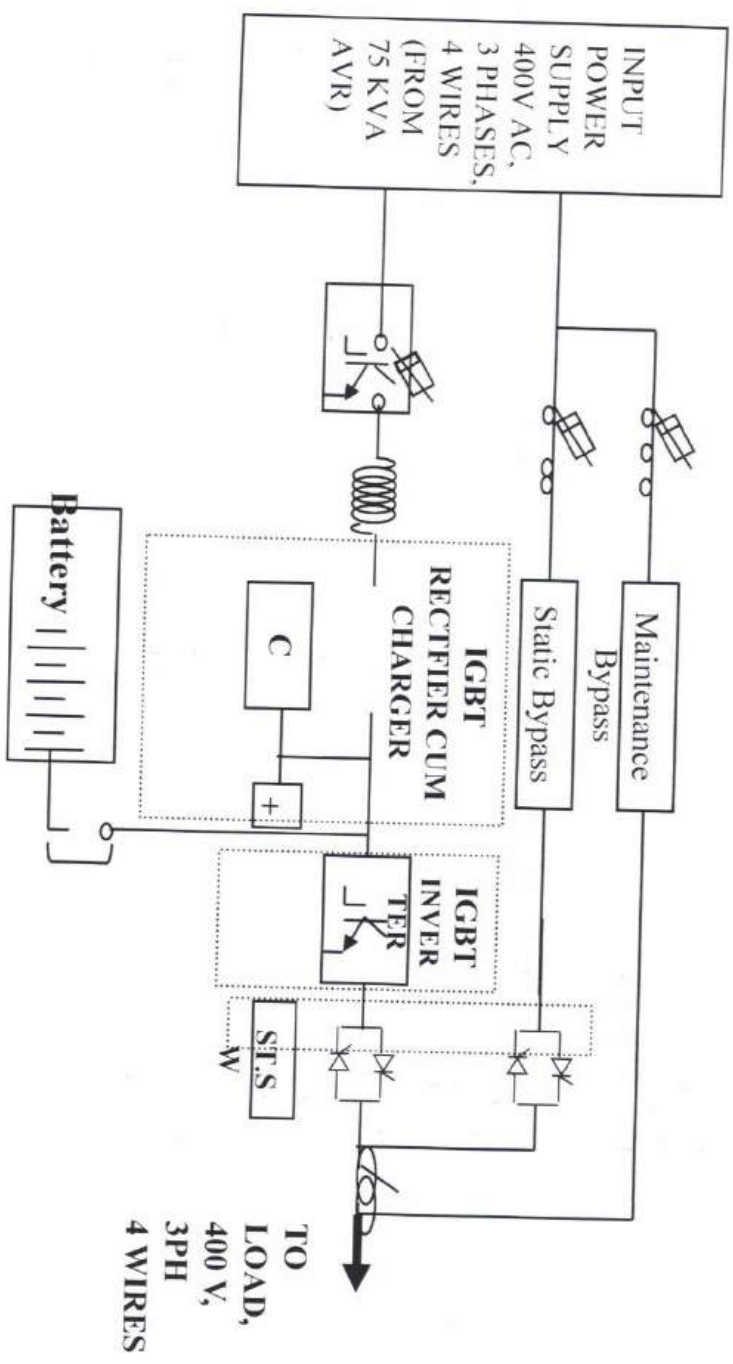
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Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura - 2x 40 KVA UPS (SINGLE MODULE -SUGGESTIVE CONFIGURATION)



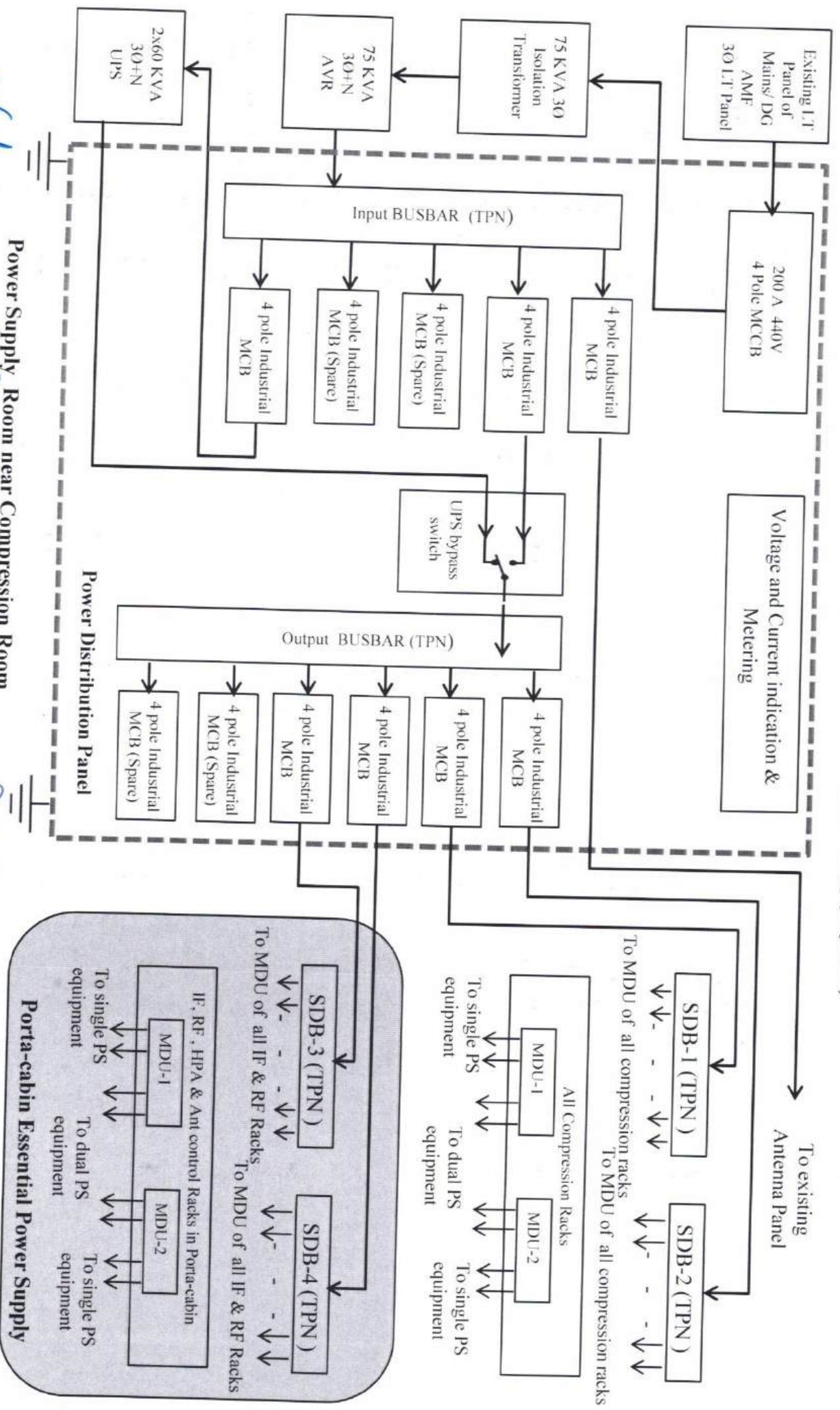
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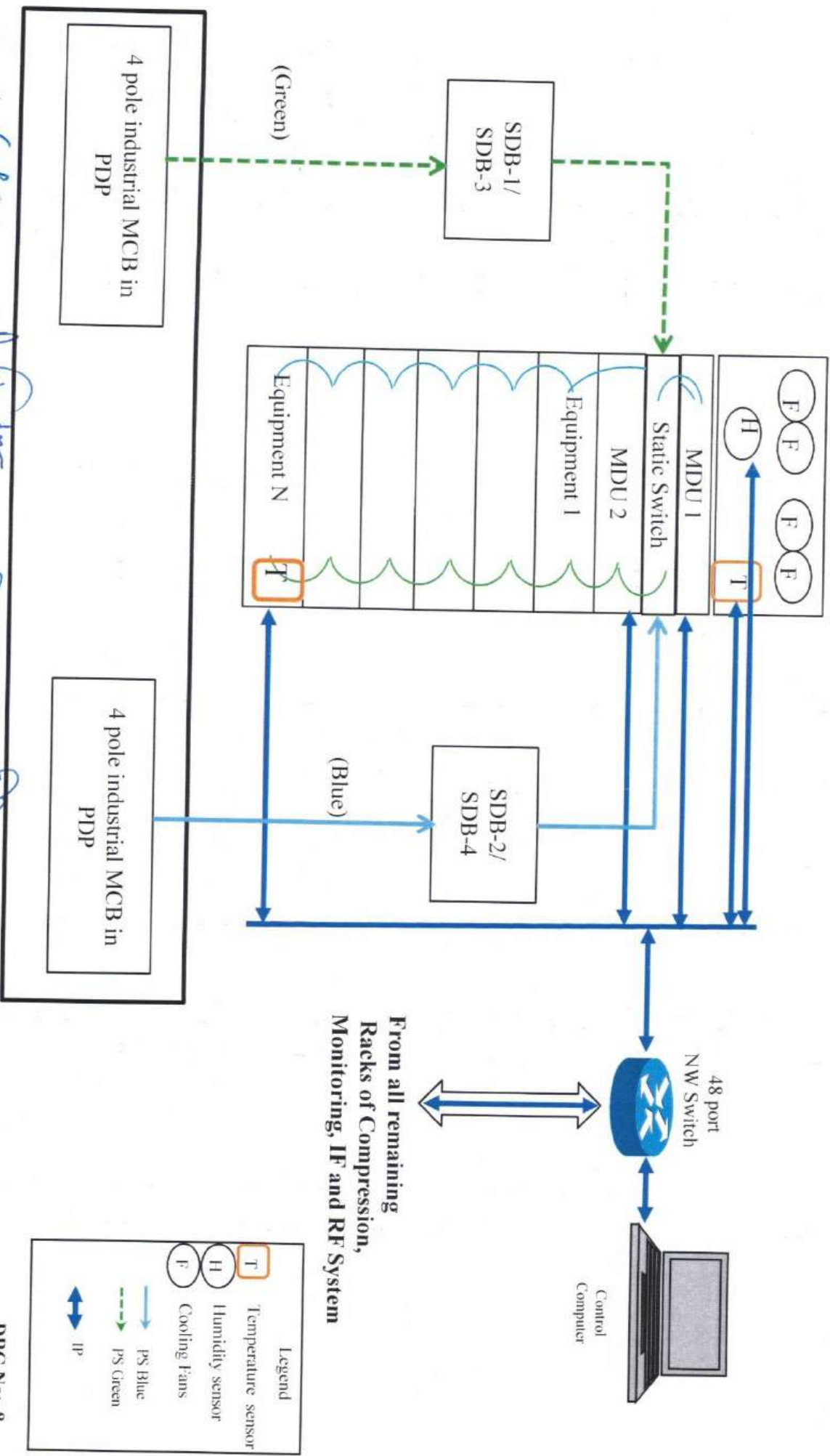
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Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Essential Power Supply System)

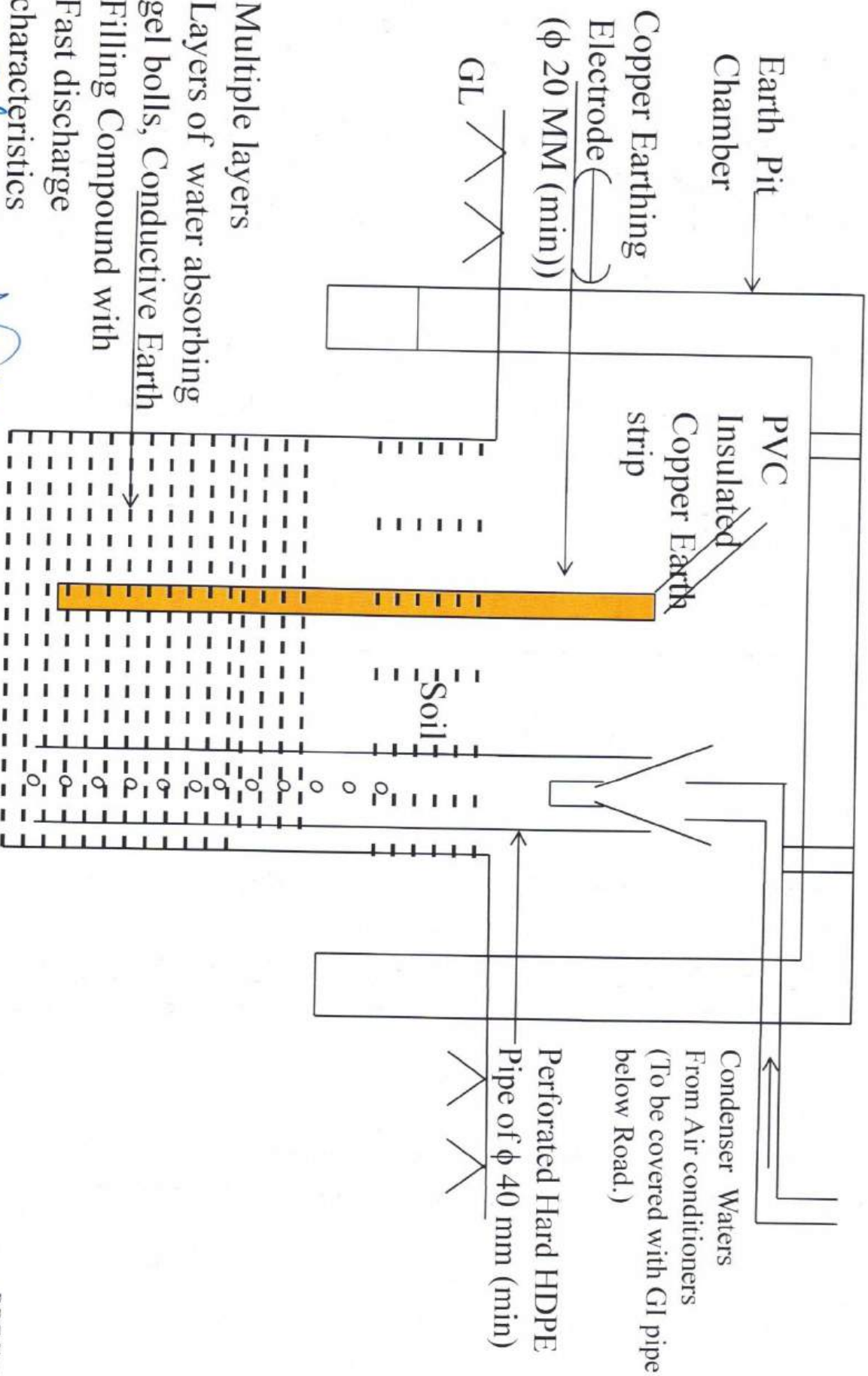


Power Supply Room near Compression Room

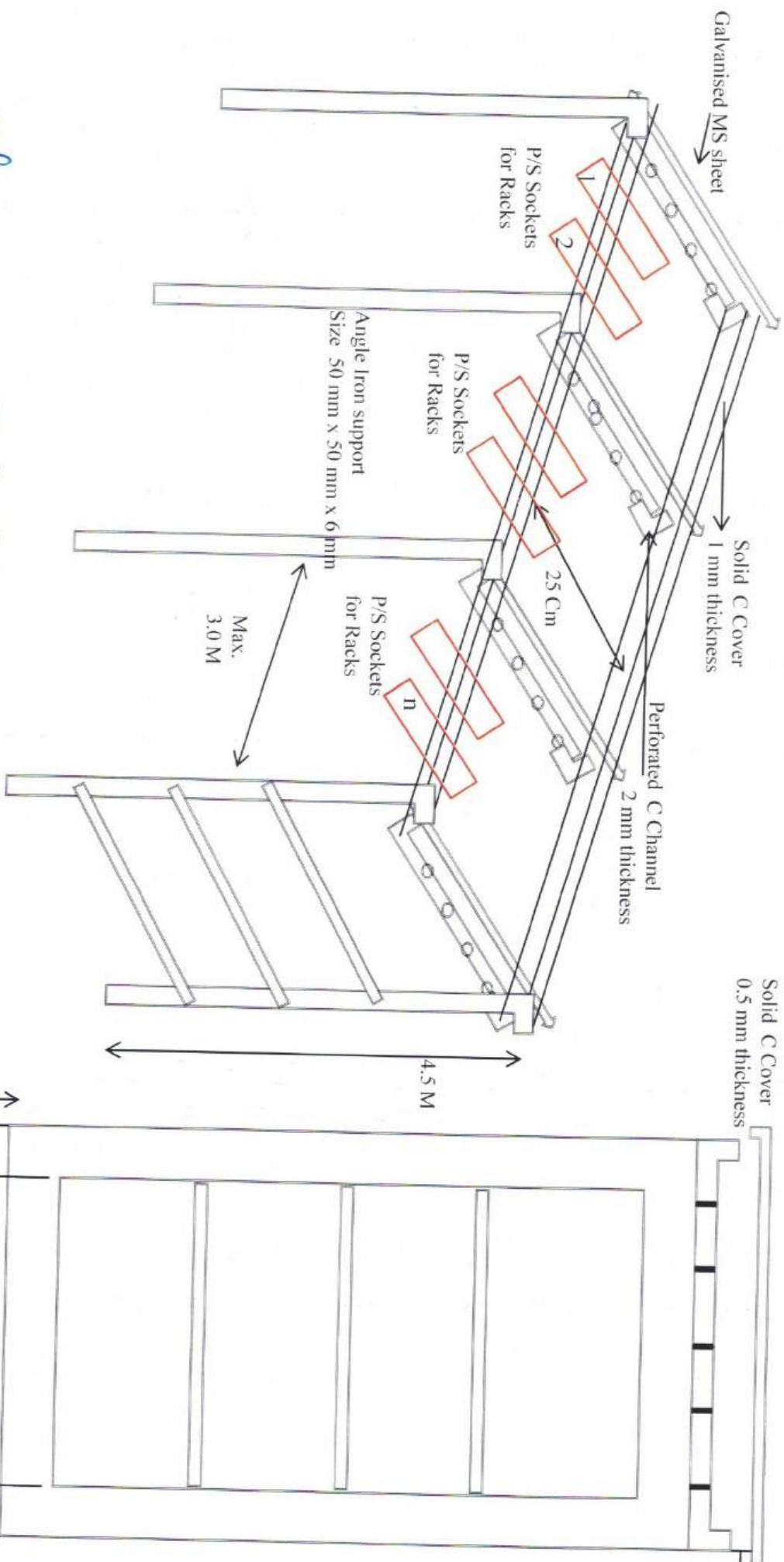
Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Power Distribution, Temp & Humidity Monitoring in Racks)



Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Earth Pit Drawing)



Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Cable Support System)



Supporting legs shall be fixed with CC (Mini 30 CM below ground) in Outdoor and Fitted with Heavy duty Floor Fasteners in indoor.

DRG No: 10

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Suggestive Block Schematic for SITC of Upgradation of Compression, Monitoring, RF and Power Supply System at Earth Station Pitampura – (Earth Terminal)



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