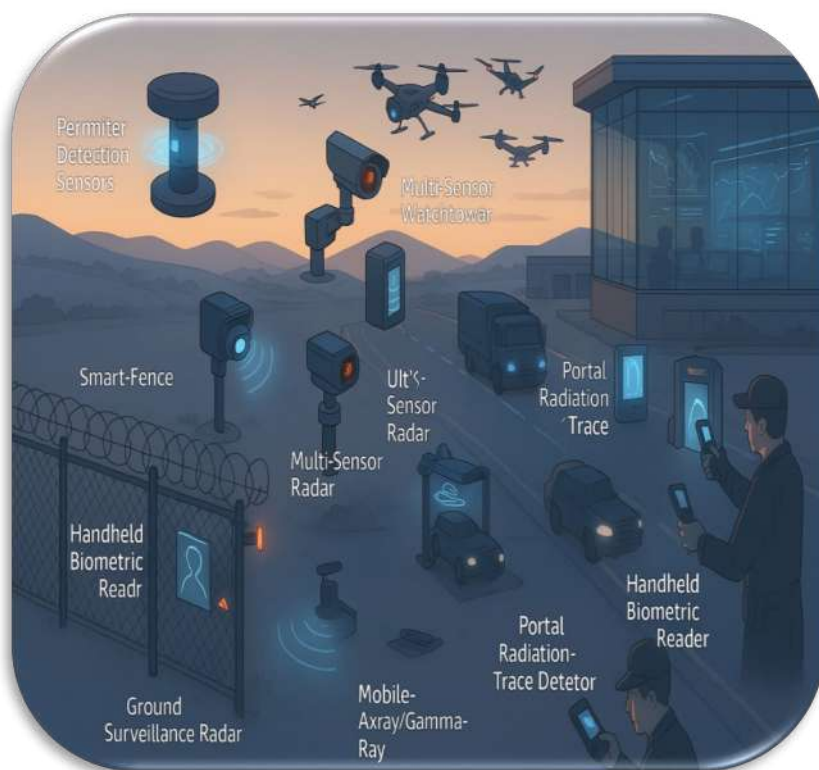




Engineering Projects (India) Ltd.

(A Govt. of India Enterprise)

Core-3, Scope Complex, 7-Institutional Area,
Lodhi Road, Scope Complex, New Delhi- 110003



Expression of Interest (EOI)

For

Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

EOI No: EPI/CO/ITD/TENDER-BSF-OFC /175/001

Date of Issue: 18.06.2025



Table of Contents	
Sl. No.	Chapter Name
1.	NOTICE INVITING EOI - IMPORTANT DATES
2.	EPIL – INTRODUCTION
3.	PROJECT SUMMARY
4.	REFERENCE TENDER NO
5.	SCOPE OF WORK
6.	DESCRIPTION OF STORE
7.	INSTRUCTION TO THE BIDDER
8.	ELIGIBILITY CRITERIA
9.	JOINT RECEIPT INSPECTION (JRI)
10.	TERMS OF DELIVERY OF SERVICES & INSTRUCTIONS
11.	PAYMENT TERMS
12.	MODE OF PAYMENT
13.	MAKE IN INDIA: (PURCHASE PREFERENCE CLAUSE)
14.	GUARANTEE / WARRANTY
15.	PENALTY CLAUSE
16.	TRAINING
17.	PERFORMANCE SECURITY DEPOSIT
18.	OPTIONS CLAUSE
19.	EXTENSION OF DELIVERY PERIOD
20.	FORCE MAJORE CLAUSE
21.	DANIAL CLAUSE
22.	LIQUIDITY DAMAGES
23.	TERMINATION OF CONTRACT
24.	CONDITIONS OF CONTRACT
25.	JURISDICTION & ARBITRATION
26.	GENERAL CONDITIONS OF CONTRACT



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

27.	SPECIAL CONDITIONS OF CONTRACT
28.	OBJECTIVE OF EOI
29.	RESOLUTION OF DISPUTES
30.	GUIDELINES FOR PREPARATION OF RESPONSE/ BID AGAINST THIS EOI
31.	AMENDMENT TO THE INFORMATION DOCUMENT
32.	TERMS AND CONDITIONS
33.	BID VALIDITY: 365 Days from End Date.
34.	TECHNICAL SPECIFICATIONS QR & TDs: (Must Comply) ANNEXURE -3
35.	PRICE SCHEDULE (BOQ FORMAT)
36.	APPENDIX (1-17)



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

Engineering Projects (India) Ltd.
(A Govt. of India Enterprise)

NOTICE INVITING EOI

Engineering Projects (India) Ltd. Invites Expression of Interest (EOI) for Pre-tender tie-up with “Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu”.

1. IMPORTANT DATES:

Engineering Projects (India) Ltd., (hereafter referred to as EPIL) invites above referred EOI from empanelled and other agencies, in sealed envelope. The details are as under:

1.	EOI No. & Date	EPI/CO/ITD/TENDER-BSF-OFC/175/001/EOI Dated 18-06-2025
2.	EOI Publication Date & Time	18-06-2025 at 09:00 AM
3.	EOI Download Date & Time	18-06-2025 at 09:30 AM
4.	Submission of BID Start Date & Time	18-06-2025 at 10:00 AM
5.	Start Date & Time to Submit Queries	19-06-2025 at 09:30 AM
6.	Last Date & Time to Submit Queries	20-06-2025 at 05:00 PM
7.	Submission of Technical Bid in CPP Portal (Online) & Hard copy . Last Date & Time	24-06-2025 at 10:00 AM
8.	Submission of Financial Bid in sealed Envelope . Last Date & Time (Hard Copy)	24-06-2025 at 10:00 AM
9.	Date and Time of opening of BID	25-06-2025 at 10:00 AM
10.	EOI Application Fee (Non-refundable)	Rs.11,800/- (Inclusive of GST @18%)

NOTE: Submission of responses to EOI / BID in CPP portal (online) & hard copy along with proposed product Catalogue / Technical Specification, must be submitted in compliance with reference tender no. P-4/TURNKEY PROJECT/PC(C-EQPT.)/1123/BSF/2025 Dated: 09-05-2025 on CPP portal.

Any deviation of the points will lead to the summarily rejection of bidder. All queries, if any, in connection with this EOI shall be sent via mail to:

Name : Shri Rajendra Yadav
Designation : Asstt. Manager (SBU-1 / IT)
Email ID : RAJENDRAYADAV@EPI.GOV.IN
Telephone : 011-24361666, Ext:- 2338



2. EPIL – INTRODUCTION:

Set up in April, 1970, Engineering Projects (India) Ltd. is a public sector enterprise under Ministry of Heavy Industry with paid-up Share Capital of Rs. 35.42 crores. The Company has its Registered Office & Corporate Office in New Delhi and Regional Offices at different geographical locations viz. New Delhi, Mumbai, Kolkata, Chennai and Guwahati. EPI, a Mini-Ratna CPSE, has established itself as a multi-disciplinary Engineering & Construction Company with presence all over India and abroad.

EPI successfully executed 30 odd projects valued over US\$ 782.00 million in Oman, Iraq, Kuwait, Saudi Arabia, UAE, Yugoslavia, Maldives, Bhutan & Thailand and 513 multi-disciplinary projects in India valuing over INR 7400 crores. Through execution of these projects, EPI has in its own way contributed in the development of the nation. EPI has the rare distinction of having worked for major power projects and steel plants in India in public sector.

The Company has been a pioneer in the EPC and PMC, further project exports and process expertise in the areas like Civil & Structural work, Material Handling Systems, Metallurgical Sector, Process Plants, Environment & Pollution Control, Oil & Petrochemicals, Defence-related projects, Border Management, Highways & Airports, Sports Stadia. Transmission Lines/Substations, etc. The services rendered by the Company include the specialized activities such as Feasibility Studies, Detailed Project Reports, Design & Engineering, Supply of Plant & Equipment, Quality Assurance, Erection, Trial-runs & Commissioning and Overall Project Management.

Contribution of Company to Nation So Far:

EPI has performed its assigned roles as the country's leading Prime Contracting Company and has left its imprint not only in India but in overseas market as well. EPI has executed projects of diverse nature Pan India & Overseas such as:

- Border Infrastructure & Management System
- Centralized Integrated Command Control Center
- Hospitals & Medical Colleges
- Access Control & Face Recognition System
- Material Handling Systems & Material Handling Systems
- Perimeter Intrusion Detection System etc.
- Housing, Townships, Road Infrastructure
- Highways, Railway, Airport Project, Sport Stadia
- Real-Time Surveillance and Monitoring System
- Optical Fiber Network & Surveillance Security
- Fiber Optical Sensor Technology, DCIM
- Radio Communications & Geo Fencing
- Security Operation Center (SOC & NOC)
- Institutional, Commercial Complexes & Infrastructure Development Works
- Ports and Harbors
- Universities, Hospitals, Medical Colleges & Research Institutes
- Water Supply, Irrigation & Canals

EPI is one of the first few Construction and Contracting Companies in India to have been awarded with Certification for ISO 9001 (Quality Management System), Certification for ISO 14001 (Environmental Management System) and Certification for ISO 45001 (Occupational Health & Safety Management System) supporting the functions of design, procurement and implementation of multi-disciplinary industrial and other construction projects.

EPI has also got Certification for ISO/IEC 27001:2013 (IT Infrastructure and Application Services Including Surveillance / Security System, Access Control Solutions and Maintenance Services).



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

3. PROJECT SUMMARY:

On behalf of the President of India, DG BSF invites an online Limited Tender from Government Agencies for "Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under Frontier HQ Jammu" along with the stores/services related to the schedule of requirement of tender enquiry enclosed.

EPIL's invites EOI from empanelled and other agencies to participate in above tender. The following is the list of currently empanelled agencies with EPIL: -

- 1) M/s Elkosta Security Systems
- 2) M/s Millennium Automation Pvt Ltd
- 3) M/s Tata Advanced Systems Ltd
- 4) M/s Trafitek Solutions Pvt Ltd
- 5) M/s SNR Edatas Pvt Ltd
- 6) M/s Synergy Telematics Pvt Ltd
- 7) M/s Tera Software Ltd
- 8) M/s Vision Plus Security Control Pvt Ltd

4. REFERENCE TENDER NO: P-4/TURNKEY PROJECT/PC(C-EQPT.)/1123/BSF/2025 Dated: 09-05-2025 on CPP portal (<https://eprocure.gov.in/eprocure/app>) Tender ID: **2025_BSF_859612_1 for BSF Tender documents.**

5. SCOPE OF WORK:

1. Procurement, supply, trench laying, installation, testing and maintenance of OFC, PLB duct and accessories for optical access routes.
2. Procurement, supply, installation / commissioning, testing and maintenance of equipment and accessories (other than OFC) on turnkey basis for establishment of "Voice and Data Network on IB under FTR HQ Jammu along with establishment of Command-and-Control Center and integration of Surveillance Equipment presently held or procured in future like as CTVs/PTZ cameras, HHTIs etc in the AOR of 08 IB deployed BNs under FTR HQ Jammu.
3. The equipment should confirm all specification contained in the tender documents including TEC specification wherever applicable.
4. Scope of work also includes the detailed survey of the site and preparations of Network architecture and detailed project report (DPR) in consultation with FTR HQ Jammu.
5. In addition to installation and commissioning of the network so established by the L-1 firm. The L-1 also be responsible for software testing, rectification of defects, remove bugs, software up gradation, imparting of training to designated BSF personnel, hand over the site to BSF and maintain during Guarantee / Warranty and subsequently during CAMC period.
6. The design of project should be based on open architecture and scalable. BSF reserve the right of subsequent up gradation surveillance infrastructure of Project to meet the changing requirement by way of integrating additional surveillance equipment as and when required.



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

7. Additional equipment provided by BSF, the firm has to integrate them in Command & Control Centre on "NO Cost to BSF" basis during Guarantee / Warranty period.
8. Bidders has to integrate the Special Surveillance Equipment like HHTIs, CCTV / PTZ Cameras, NVR, DVR and other sensors presently available on the ground as per requirement of the field formation.

6. DESCRIPTION OF STORE: -

Sr. No.	Items Description	Unit	Qty
1.	2:4 Power PLC splitter (2:4 Optical powersplitter)	Nos.	80
2.	2:8 Power PLC splitter (2:8 Optical powersplitter)	Nos.	94
3.	12 Core single mode Optical Fiber (Cable)	Mtrs	394000
4.	HDPE pipe for laying of OFC	Mtrs	394000
5.	24 Port Fiber LIU fully loaded with single mode SC adaptor, Adaptor plate and pigtail	Nos.	538
6.	SC-LC Fiber duplex patch cord	Nos.	112
7.	LC-LC Fiber duplex patch cord	Nos.	32
8.	SC-SC Fiber duplex patch cord	Nos.	1528
9.	UTP cat 6 patch cord 3 meter (CAT-6 Patch cord 3 Mtr)	Nos.	780
10.	Layer 3 managed switch Industrial grade with 4 SFP enabled and 24 port	Nos.	50
11.	IP 66 termination box for fiber termination and 8 port industrial switch	Nos.	538
12.	19 inches 9U network rack	Nos.	66
13.	19 inches 42 U network rack	Nos.	8
14.	Network Video recorder (NVR) 32 port with 16 TB HOD	Nos.	48
15.	Layer 2 managed switch Industrial grade with 2 SFP enabled and 8 Port POE	Nos.	450
16.	Layer 2 managed switch industrial grade with 2 SFP enabled and 8 Port	Nos.	30
17.	GPON 8 Port OLT	Nos.	8
18.	EMS software for managing GPON equipment	Nos.	8
19.	Monitor 55" (Industrial grade with wall mount)	Nos.	74



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

20.	Rack server (12 CPU)	Nos.	8
21.	Work station computer	Nos.	74
22.	3 KVA online UPS (With 60 Min Back up)	Nos.	74
23.	1 KVA offline UPS (with cabin with 120 Min backup)	Nos.	640
24.	GI Earthing	Nos.	96
25.	3.5 x 35SQ mm aluminium armoured cable for connection from Border track to mount/ FOP including laying as per CPWD specification	Mtrs	59500
26.	3 core x 4 SQ mm copper wire for connection or wiring (for short distance below 50 Mtr)	Mtrs	31200
27.	3 core x 2.5 SQ mm copper wire for connection or wiring (for short distance below 50 Mtr)	Mtrs	7800
28.	3 phase aluminium bus bar on wall of FOP/ Mount from 63 amp to 100 amp	Nos.	312
29.	Joint Box	Nos.	312
30.	6 / 5 amp 2 switch+ 2 socket box	Nos.	624
31.	15/ 16 amp 1 switch + 1 socket box	Nos.	624
32.	DP MCB	Nos.	312
33.	Laying of underground OFC cable for depth of 65 Cms		
34.	Installation & Commissioning Charges		

7. Instructions to bidder

- I) All Bid documents inclusive of NIT, instructions to bidder, special condition, schedule of requirement, QR & TD and all other relevant document are attached. Bidders are advised to download the same and go through in detail. All Bid documents attached with this invitation to EOI including the specifications are SACROSANCT for considering any offer as complete offer. It is therefore important that EOI Acceptance Letter which is a written undertaking that all the terms and condition of the tender are understood and accepted should be signed and submitted only through off line in sealed envelope.
- II) Bidders are advised to carefully go through all the conditions and documents attached with this tender enquiry, before uploading the tender. All Bid documents attached with the tender are sacrosanct for considering any offer as a complete offer. Bidder are also advised to go through checklist.
- III) Bidders must ensure that they have gone through with complete Bid documents and read thoroughly all terms & conditions, schedule of requirement, tenders QRs/TDs. Bidder will upload



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

the declaration certificate for the same purpose. All questionnaires along with the various forms & Appendices will be signed in column & on each page and uploaded with their offer, as it is, without any modification/alteration.

- IV) **Delivery Period:** The Project should be completed in all respect for taking over by BSF as per terms and conditions of AT, within 180 days from the date of issue of AT (Supply Order).
- V) **Bid Securing Declaration:** In, term of Rule-170 of GFR 2017 & firm will submit Bid Securing Declaration Certificate on firm letter head as per Appendix-7, failing which bid will be liable to be rejected.
- VI) **Bid / Offer Validity:** 365 days from date of tender opening. In the absence of any indication in the Biddocuments submitted, of the date up to which the offer has been kept valid, it will be taken that the offer will remain open for acceptance for the period specified in the schedule to tender.
- VII) **Extension of Bid validity & Earnest Money:** If the validity of the tender is extended, the validity of the Bid will also have to be suitably extended by the tenderer failing which their tender shall not be considered by the purchaser after the expiry of the aforesaid period.
- VIII) **Earnest money Deposit (EMD):**
- 1) The bidder for the empanelment shall furnish a sum of **INR 1,00,00,000/- (INR One Crore only)** as earnest money in favour of Engineering Projects India Ltd.
 - 2) The Bid Security / EMD of the successful bidder shall be retained by EPIL till completion of engagement / empanelment period and in r/o of unsuccessful bidders, the same shall be returned to them after completion of EOI evaluation process.
 - 3) Successful bidders shall have to submit performance security as per EOI terms & conditions.
 - 4) Every successful bidder shall have to submit an undertaking on their letter head mentioning therein that after empanelment or entering into the EOI, they will not back out from this contract / empanelment before end date of EOI or they will not modify any term & condition of this EOI. If they fail to adhere / comply the terms & conditions of EOI, EPIL without giving any justification / explanation, may forfeit their Bid Security / EMD amount as deposited by them.
 - 5) The Earnest Money receipt shall be incorporated in the original copy of the EOI document.
 - 6) The **EMD of INR 1,00,00,000/- (INR One Crore only)** can be paid in the form of Online transfer / Demand Draft / Bank Guarantee only and the same shall be drawn in favour of "Engineering Projects (India) Limited, New Delhi" payable at New Delhi. Which should be valid for 180 days from the Bid closing date. Copy of SFMS by bidder's bank shall also be submitted at the time issue of EMD / Bank Guarantee / Demand Draft / as well as time renewal if any. The Bid Security/ EMD shall be retained by EPI till engagement period as an associate for successful bidder and the same shall be returned to unsuccessful bidders after completion of EOI evaluation process.

The Bank details are as follows: -

Name	Engineering Projects India Limited
Bank Name	HDFC Bank
Bank Address	209 -214, Kailash Building, 26, Kasturba Gandhi Marg, New Delhi - 110001
Account Number	00030350008503
IFSC Code	HDFC0000003



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- 7) The earnest money of unsuccessful bidder will save as herein before provided, be returned within reasonable time to the bidder however EPIL shall not be responsible for any loss or depreciation that may happen to the bid security for the due performance of the above stipulation to keep offer open for the period specified in the EOI documents or to the Earnest Money while in their possession nor be liable to pay interest thereon.
- 8) **The EOI not accompanied by Earnest Money & EOI Application Fee (Non-refundable) will be summarily rejected.**
- IX) **Right of Bidders:** Bidder can ask in writing about bidding condition, bidding process and I or rejection of their bid. The reasons for rejecting a tender or non-issuing of Bid document to prospective bidder must be disclosed where enquiries are made by the bidder.
- X) **Currency of Bidding:** Bidders are allowed to quote price in Indian Rupees (INR) only.
- XI) **Submission of the proposal in TWO BID SYSTEM:** All bidders are required to submit their offers in two bid. The details are as under: -
- a) **TECHNICAL BID:** It must contain the following:
- I) Bid documents duly completed and signed but without indicating the rate quoted (Scanned copy)
 - II) Bid securing declaration certificate as per Appendix-7. The technical details of the models offered along with the supporting original technical literature, leaflets, brochures etc.
 - III) Clause by clause compliance to specifications. All forms & Appendices of T.E. duly filled and signed by the bidder.
- b) **COMMERCIAL BID:**
- I) Bidders should submit price bid (BOQ) prices filled as per format available in Appendix-8.
 - II) The Bidder should give break up of their prices in terms of Basic price, Custom duty, any other tax & applicable GST and must attach copies of govt notification in support of all applicable Taxes/ duties/ charges quoted in the offer.
 - I) The firm will provide rate list of required spare parts (MRLS) for 5 years after the warranty period separately.
 - II) **Evaluation of the proposal (Technical evaluation and financial evaluation)** A two stage evaluation procedure will be adopted.
- a) **Stage – 1: Technical Evaluation: -**
- i. Offer of the firm will be initially examined in accordance to the eligibility criteria of bidder,
 - ii. Technical documents along with essential forms & Appendix duly filled and signed and Bid security Declaration.
- b) **Stage – 2: Financial Evaluation: -**
- i. The Financial Evaluation will be done on the basis of bidder (L-1).
 - ii. The price bids of only those firms will be opened whose store as per schedule of requirement have been found meeting all the parameters of technical functionalities and who qualified in technical evaluation. Rates inclusive of all Taxes & Duties.
 - iii. Any conditional bid would be rejected.



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- iv. **Errors & Rectification:** In the Break-up of prices Arithmetical errors will be rectified as: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail."
- v. **Criteria for awarding the contract:** Strictly as per Terms & Conditions of Tender Enquiry.
- vi. **Compliance Statement-**The firms must submit / upload compliance statement in the format given in Appendix-1 along with technical bid failing which their offer will be treated as incomplete and will be summarily rejected.

8. Eligibility Criteria:

Sl. No.	Pre-Qualification Criteria	Reference Details / Documentary Evidence
1.	The bidder should be sole proprietary / partnership firm of a company registered with the Companies Act / Registrar of Firms / Registrar of Companies (as applicable)	Company Incorporation Certificate, Partnership Deed, Memorandum and Article of Association need to be submitted.
2.	1) The Bidder shall have any three (03) of the following Certifications valid at the time of submission of bid: a) ISO 9001: 2015 b) ISO / IEC 20000-1: 2018 c) ISO / IEC 27001: 2022 d) ISO 14001: 2015 e) ISO 45001: 2018 f) CMMi Level 3 or CMMi 5 certification	Copies of all certificate need to be submitted.
3.	The bidder should have annual average turnover of Rs. 40 Crore for the last 3 financial years. (F.Y. 2021-2022, 2022-2023, 2023-2024)	CA Certified / Audited copies of financial statements for the last 03 financial years required to be submitted with valid UDIN. (F.Y. 2021-2022, 2022-2023, 2023-2024)
4.	CA certified with valid UDIN for turnover and for positive net worth.	CA certified documents with valid UDIN
5.	The bidder must have positive net worth and at least 02 profitable operations for the last 3 years preceding from the date of submission of EOI.	Certified / audited copies of profit and loss, net worth statements and profitable operations for last 3 preceding financial years need to be submitted.
6.	The Bidder should be a regular income tax payee having filed its income tax return for last 3 financial years.	CA certified / audited copies of Income Tax return for last 3 financial years need to be submitted.



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

7.	The Bidder must have valid GST registration certificate, latest GST return statements and valid PAN card.	All Bidder need to be submitted valid GST registration certificate, PAN Card along-with copies of latest GST return statements duly certified from CA concerned.
8.	The Bidder should not have been blacklisted by any of the PSUs/ State or Central Govt. Departments / Ministries for the past 2 years.	An undertaking signed by CEO / Authorized Signatory of the company to be provided on Non – judicial stamp paper of INR 100/- and document duly attested by notary public.
9.	<p>The Bidder must have completed similar work / project in last 7 years.</p> <p>a) 1 (One) similar work / project of value INR 80 Crore.</p> <p style="text-align: center;">OR</p> <p>b) 2 (Two) similar work / project of value INR 50 Crore each.</p> <p style="text-align: center;">OR</p> <p>c) 3 (Three) similar work / project of value INR 40 Crore each.</p> <p>Note: Similar work / project means that Supply, Installation, Testing & Commissioning of OFC Cable / HDPE pipe for laying of OFC / any or more item specified in Point no. 6 (Description of store) of this EOI</p>	Attach work orders / certificates specifying “completion” or “satisfactory work in progress” OR Reference Details on the bidder’s letter head with contact details for reference.
10.	Experience Criteria	<p>(a) Completion certificate issued by end user / Owner (or their consultant who has been duly authorized by owner to issue such certificate).</p> <p>(b) The completion certificates shall have details like work order no./date, brief scope of work, completion date, job completion value, etc.</p>
11.	Declaration for acceptance of terms & condition of this EOI.	An undertaking signed by CEO / Authorized Signatory of the company to be provided on Non – judicial stamp paper of INR 100/- and document duly attested by notary public.



9. JOINT RECEIPT INSPECTION (JRI):

- a) JRI will be conducted after successful installation/commissioning of Turnkey Project and its successful operation, continuously for 30 days in the presence of user and authorized representative of firm before final acceptance / taking over of the project by BSF.
- b) JRI will includes inspection of all active/ passive equipment/ material and checking of all the project components as discussed in the scope of work which should meet requirements, standards, specifications and performance before commissioning of project.
- c) Upon completion of the JRI, the authorized representatives of the PURCHASER and the SUPPLIER shall sign the certificate of Joint Receipt Inspection (JRI).
- d) If any equipment is rejected in final inspection as not conforming to Tender Specifications the same must be replaced within scheduled Delivery Period before final acceptance.
- e) Alternatively at purchaser's option, money be refunded positively within 30 days of issue of notice of such rejection in case any payment is already made to the seller.
- f) The purchaser's right of rejection in this regard will be final and absolute.

10. TERMS OF DELIVERY OF SERVICES & INSTRUCTIONS: -

- a) Firm should complete the project within the prescribed delivery period. However, delay in execution of the project beyond delivery period must have prior permission/extension from purchaser.
- b) In the event if firm deliver the store/ complete the project after delivery period, it would be at the risk and the cost of the bidder as the supply may not be taken as contractually accepted.
- c) No grace period will be provided after the stipulated delivery period except Force Majeure clause.

11. PAYMENT TERMS:

- I) **20%** in advance against Bank Guarantee.
- II) **40%** on delivery of store
- III) **40%** after completion, Installation and commissioning.
- a) Completion of the project in all respects includes Supply of store, Installation and successful operation for a period of one month by the authorized representative of firm in presence of staff of BSF & successful JRI.
- b) In case of any shortcoming found during this period, same will be removed by the firm's own expenses within prescribed DP.
- c) After installation & commissioning of the system and one month trial and JRI, bidder would inform buyer in writing for taking over of the project. It shall be the responsibility of buyer to depute officers for taking over the system within one month.

12. MODE OF PAYMENT: Payment will be made through "e-payment" for which dully completed proforma has to be submitted (Appendix- 9).



13. MAKE IN INDIA: (Purchase Preference Clause)

As per the Public Procurement order 2017 (Preference to Make in India) issued by Ministry of Commerce & Industry dated 16.9.2020 in the procurement of goods or works which are not divisible in nature where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'non-local supplier', as per following procedure: -

- a) 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.
- b) 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.
- c) 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 of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

14. GUARANTEE / WARRANTY:

- a) Guarantee / Warranty will be for 02 Years and will start from the date of final taking over of project by BSF after completion of Joint Receipt Inspection (JRI).
- b) The support of minimum 07 years (02 years of OEM or their warranty).
- c) OEM letter confirming Products quoted are not end-of-life for the further period of 7 years from the date of Final Acceptance.

15. PENALTY CLAUSE: -

Onsite Guarantee/ Warranty will be comprehensive i.e. inclusive of the cost for repair / replacement of all spare parts. Penalty for delay in repair / replacement will be implemented as under: -

- a) The defective equipment will be collected from consignee / site, replaced / repaired and handed over back to consignee within Fourteen (14) days after intimation to the firm by the consignee.
- b) Penalty for non-commercial period of the equipment due to defect will be @ 0.5% of the cost of the individual equipment per week or part thereof after expiry of service period of 14 days for each occasion of defect. Cumulative penalty not to exceed 10% of the cost of defective equipment.
- c) In case, the defective equipment or software leads to the non-serviceability of the entire network of any unit / BN, the calculation of penalty will be done @1% of the total cost of the project per week or part thereof after expiry of service period of Fourteen (14) days for each occasion of defect. Cumulative penalty not to exceed 10% of the cost of the project.



16. TRAINING:

Training is required to be conducted by the Firm on quarterly basis during first year at of Guaranty / Warranty at respective Unit locations under Jammu Frontier (to be decided by the Frontier). @10 trainees per quarter for a period of 10 days).

17. PERFORMANCE SECURITY DEPOSIT:

- a) All successful Bidders against the Tender Enquiry irrespective of their registration status with MSME shall be required to furnish performance security bond valid up to the laid down period given in the A/T.
- b) The successful Bidder will have to submit a Performance Security equivalent to 5% of the Contract / Order value within 14 days of award of contract with validity up to 60 days after the expiry of the Warranty / Guarantee period in the shape of an Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial bank, Bank Guarantee including (e-Bank Guarantee) from a Commercial bank or online payment in an acceptable form safe guarding the purchaser's interest in all respects. Bank Guarantee in the required proforma which will be supplied along with the A/T.
- c) The Performance Security Deposit will come into force after the receipt and final acceptance of the stores. Final Acceptance will be from the date of acceptance of the inspection report of JRI/ Survey.
- d) Firms are bound to direct their bankers to extend the Performance bond to be valid till 60 days after the expiry of Warranty / Guarantee Period, if required.
- e) Provision of sanctions for violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of Pre-Contract Integrity Pact.

18. OPTION CLAUSE:

The purchaser reserves the right to increase or decrease the tendered quantity upto 25 (Twenty-Five) percent 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 delivery period (or the extended delivery period) in accordance to clause 9.3 of Manual for procurement of Goods 2017, MoF.

19. EXTENSION OF DELIVERY PERIOD:

In accordance to Clause 9.7.4 of Manual for procurement of Goods 2017, MoF, Suppliers shall be required to adhere to the delivery schedule specified in the purchase order and, if there is delay in supplies, LD shall be levied wherever there is failure by the party. Extension of the delivery date amounts to amendment of the contract. Such an extension can be only done with the consent of both parties (that is, the purchaser and supplier). No extension of the delivery date is to be granted suo motu unless the supplier specifically asks for it. However, in a few cases, it may be necessary to grant an extension of the delivery period suo motu in the interest of the administration. In such cases, it is legally necessary to obtain clear acceptance of the extension letter from the supplier.



If at any time during the currency of the contract, the supplier encounters conditions hindering timely delivery of goods, he shall promptly inform the concerned officer in writing. He should mention its likely duration and make a request for extension of the schedule accordingly. On receiving the supplier's communication, the Procuring Entity shall examine the proposal and, on approval from the CA, may agree to extend the delivery schedule, with or without LD and with or without the denial clause, for completion of the contractor's contractual obligations.

20. FORCE MAJEURE CLAUSE:

A Force Majeure (FM) means extraordinary events or circumstances beyond human control such as an event described as an act of God (like a natural calamity) or events such as war, strike, riots, crimes (but not including negligence or wrong-doing), predictable / seasonal rain and any other events specifically excluded in the clause). An FM clause in the contract frees both parties from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. An FM clause does not excuse a party's non-performance entirely, but only suspends it for the duration of the FM. The firm has to give notice of FM as soon as it occurs and it cannot be claimed ex-post facto. There may be a FM situation affecting the purchase organization only. In such a situation, the purchase organization is to communicate with the supplier along similar line as above for further necessary action. If the performance in whole or in part or any other obligation under this contract is prevented or delayed by any other reason of FM for a period exceeding 90 (Ninety) days, either party may its option terminate the contract without any financial repercussion on either side.

21. DENIAL CLAUSE:

In accordance to Clause 9.7.4 of Manual for procurement of Goods 2017, MoF, any increase in statutory duties and / or upward rise in prices due to the PVC clause and / or any adverse fluctuation in foreign exchange are to be borne by the seller during the extended delivery period, while the purchaser reserves his right to get any benefit of a downward revisions in statutory duties, PVC and foreign exchange rate. Thus, PVC, other variations and foreign exchange clauses operate only during the original delivery period.

22. LIQUIDATED DAMAGES:

If the Seller/Service Provider fails to deliver any or all of the Goods/Services and installation within the original/re-fixed delivery period(s) specified in the contract, the Buyer will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without an, controversy/dispute of any sort whatsoever.

QUANTUM OF LD:

While granting extension of the delivery period, where the delivery of stores or any instalment thereof is accepted after expiry of the original delivery period, the purchaser shall recover from the Firm, as agreed, the Liquidate Damage of the sum of 0.5 (Half) percent of the contract Price of the delayed/undelivered stores/services including



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

installation mentioned above for every week of delay or part of a week. The total damages shall not exceed 10 (Ten) per cent of value of delayed goods.

23. TERMINATION OF CONTRACT:

- a) Time shall be the essence of the contract. The purchaser shall have the right to terminate this contract without any notice in part or in full in any of the following cases:
- b) The delivery of the material is delayed for causes not attributed to Force Majeure after the scheduled date of delivery.
- c) The seller is declared bankrupt or becomes insolvent.
- d) The delivery material including installation is delayed due to causes of Force Majeure by more than 90 days.
- e) In case Security Deposit or Performance Security is not furnished within the time period specified in the A/T.
- f) Any incorrect information regarding eligibility criteria and other tender condition furnished by the bidder found at later stage then A/T (Supply order) will be cancelled along with forfeiture of security deposit/ performance bond.
- g) The buyer has noticed that the seller has utilized the Services of any Indian/Foreign agent getting this contract & part any commission to such Industries / Company etc.
- h) As such decision of the Arbitration Tribunal.

24. CONDITIONS OF CONTRACT:

As contained in Chapter 9 of Manual for procurement goods 2017, MOF and contained in the GFR 2017, Manual of Ministry of Finance for procurement of goods & all orders issued by MHA, CVC and other relevant departments or Government of India from time to time.

25. JURISDICTION & ARBITRATION:

This tender and subsequent contract if any are subject to the jurisdiction of Indian Laws and Courts at the place of issue of the Tender. Sole Arbitration is appointed by the EPIL / DG BSF. For details refer to Clause 9.9.1 and 9.9.2 of Manual for procurement goods 2017, MOF.

- a) No bidding firm will be allowed to withdraw its bids after technical bids have been opened. If any firm intends to withdraw after opening of technical bids, the firm will be suspended/ debarred from being eligible for bidding in any tender with the BSF for 01 year from the date of issue of debarment/ suspension order as well as other Central Government Department's tender and other legal recourse thereof.
- b) If after award of the contract, the successful bidder (L1) fails to provide required number of tendered stores, the contract is liable to be cancelled along with forfeiture of performance security deposit and other consequential actions such as blacklisting of the firm etc.
- c) The purchaser reserves the right to cancel or reject any/all of the tendered requirement without assigning any reasons.

26. GENERAL CONDITIONS OF CONTRACT:

- a) All appendices, attached with the TE, should be duly filled in and are sacrosanct for considering any offer as a complete offer.
- b) The conditions of contract, which will govern any contract made, are contained in the:



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- 2.2 The conditions of contract which will govern any contract made are contained in the GFR 2017, Manual of Ministry of Finance for procurement of goods 2017, procurement of Consultancy & Other Services 2017 & all orders issued by MHA, CVC and other relevant departments of Government of India from time to time which has been issued before issuance of this Tender.
- 2.3 Public Procurement Order (Preference to Make in India, 2017) issued by GO/, Ministry of Commerce & Industry (DPIIT)(PP Section) vide order dated 16.09.2020 pursuant to Rule 153(iii) of GFR 2017, Ministry of Finance, Department of Expenditure, Public Procurement Division order dated 23.07.2020, MSMED Act 2006, Public Procurement Policy for MSEs Order-2012 issued by Ministry of MSME vide order dated 23rd March 2012 shall also be taken into consideration in procurement of Goods & services.
- 2.4 Any special conditions attached to this invitation to tender will also form part of the conditions of contract and will supersede any general conditions.

c) AMENDMENTS:

The amendment made by Central Government from time to time in policy and instructions will be adhered.

d) DEFINITION:

"Secretary" means Secretary of Ministry of Home Affairs for the time being in the administrative charge of the subject matter of contract and included Special Secretary, Additional Secretary, Joint Secretary or Director or Deputy Secretary in Ministry of Home Affairs. Director General, Inspector General, Dy. Inspector General, Commandant in BSF (MHA) and every other officer authorized for the time being to execute contracts relating to purchase and supply of stores on behalf of the President of India.

e) ARBITRATION:

5.1 Conciliation of disputes

- I) Any party may invoke Conciliation by submitting "Notice of Conciliation" to the Head of the Procuring Organisation Since conciliation is a voluntary process, within 30 days of receipt of "Notice of Conciliation", the Head of the Procuring Organisation shall notify a sole Conciliator if the other party is agreeable to enter Conciliation. If the other party is not agreeable to Conciliation, the aggrieved party may invoke Arbitration.
- II) The Conciliator shall proactively assist the parties to reach an amicable settlement independently and impartially within the terms of the contract, within 60 days from the date of appointment of the Conciliator.
- III) If the parties reach an agreement on a dispute settlement, they shall draw up a written settlement agreement duly signed by the parties and conciliator. When the parties sign the settlement agreement, it shall be final and binding on the parties. The dispute shall be treated as resolved on the date of such agreement.
- IV) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.
- V) Termination of Conciliation Disputes shall remain alive if the conciliation is terminated as follows:



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- a) By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of such declaration; or
 - b) By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated, on the date of such declaration; or
 - c) If the parties fail to reach an agreement on a settlement of the dispute, within 60 days of the appointment of Conciliator
- VI) On termination of Conciliation, if the dispute is still alive, the aggrieved party shall be free to invoke Arbitration.

5.2 Arbitration Agreement:

I) This Agreement

- a) This Arbitration Agreement (hereinafter referred to as this "Agreement") relating to this Contract (hereinafter called the "Main Agreement" for this agreement) is made under the provisions of The Arbitration and Conciliation Act, 1996 as amended from time to time and the rules thereunder (hereinafter called The Arbitration Act) This Agreement shall continue to survive termination, completion, or closure of the Main Agreement for 120 days after that.
- b) Subject to aforesaid provisions, relevant clauses of the contract shall apply to the appointment of arbitrators and arbitration proceedings under this Agreement
- c) The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 provides parties to a dispute (where one of the parties is a Micro or Small Enterprise) to be referred to Micro and Small Enterprises Facilitation Council if the dispute is regarding any amount due under Section 17 of the MSMED Act, 2006. If a Micro or Small Enterprise, being a party to dispute, refers to the provisions in MSMED Act 2006, these provisions shall prevail over this Agreement.

II) Notice for Arbitration

- a) Authority to Appoint Arbitrator(s): For this Arbitration Agreement 'The Appointing Authority', to appoint the arbitrator shall be Head of the Procuring Organisation named in the contract and includes if there be no such authority, the officer who is for the time being discharging the functions of that authority, whether in addition to other functions or otherwise.
- b) In the events of any dispute as per GCC-clause 11.1, if the Adjudicator fails to decide within 60 days (as referred in 11.3 of GCC-clause), or the Conciliation is terminated then, parties to the contract, after 60 days but within 120 days of "Notice of Dispute" (clause 11.1 of GCC-clause) shall request the Appointing Authority through a "Notice for Arbitration" in writing requesting that the dispute or difference be referred to arbitration.
- c) The "Notice for arbitration" shall specify the matters in question or subject of the dispute or difference indicating the relevant contractual clause, as well as the amount of claim item-wise.

III) Reference to Arbitration



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

After appointing Arbitrator(s), the Appointing Authority shall refer the Dispute to them Only such dispute or difference shall be referred to arbitration regarding which the demand has been made, together with counter-claims or set off other matters shall be beyond the jurisdiction of Arbitrator(s)

IV) Appointment of Arbitrator:

a) Qualification of Arbitrators:

- i) In the case of retired Officers of The procuring Organisation, he shall have retired in the rank of senior administrative grade (or equivalent) and shall have retired at least 1 years prior and must not be over 70 years of age on the date of Notice for arbitration.
- ii) He/they shall not have had an opportunity to deal with the matters to, which the contract relates or who, in the course of his/ their duties as officers of the Procuring Organisation, expressed views on any or all of the matters under dispute or differences A certification to this effect (as per Format I .4) shall be taken from Arbitrators. The proceedings of the Arbitral tribunal or the award made by such Tribunal shall, however, not be invalid merely for the reason that one or more arbitrators had in the course of his service, an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.
- iii) An Arbitrator may be appointed notwithstanding the total no. of arbitration cases in which he has been appointed in the past.
- iv) Not be other than the person appointed by The Appointing Authority and that if for anyreason that is not possible, the matter shall not be referred to arbitration at all.

b) Replacement of Arbitrators

If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or in the event of the arbitrator dying, neglecting/unable or unwilling or refusing to act for any reason, or his award being set aside by the cou11 for any reason, or in the opinion of the Appointing Authority fails to act without undue delay, the Appointing Authority shall appoint new arbitrator/ arbitrators to act in his/their place in the same manner in which the earlier arbitrator /arbitrators had been appointed. Such a re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).

Appointment of Arbitrator:

- a) In cases where the total value of all claims in question added together does not exceed Rs 50,00,000/- (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of sole Arbitrator. For this purpose, The Appointing Authority shall send to the contractor, within 60 days from the day of receipt of a written and valid notice for arbitration, a panel of at least four (4) names of retired Officers, duly indicating their retirement dates.
- b) The contractor shall be asked to nominate at least two names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by the Appointing Authority. The Appointing Authority shall appoint at least one out of them as



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

the sole arbitrator within 30 days from the receipt of the names of the contractor's nominees.

- c) In cases where the total value of all claims in question added together exceeds Rs.50,00,000/- (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of three (3) retired Officers of the Procuring Organisation For this purpose, The Appointing Authority shall send a panel of at least four (4) names of such Officers(s) empanelled to work as Arbitrators duly indicating their retirement date to the contractor within 60 days from the day when a written and The Appointing Authority receives valid demand for arbitration.
- d) The contractor shall be asked to nominate at least 2 names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the contractor's nominee It shall also simultaneously appoint the balance number of arbitrators either from the panel or outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed, within 30 days from the receipt of the names of Contractor's nominees.
- e) If the contractor does not suggest his nominees for the arbitral tribunal within the prescribed timeframe, The Appointing Authority shall proceed for appointment of the arbitral tribunal within 30 days of the expiry of such time provided to the contractor.

V) Failure to appoint Arbitrators.

If the Appointing Authority fails to appoint an arbitrator within 60 days (sixty) days, then subject to the survival of this Arbitration Agreement, in international commercial arbitration, the Supreme Court of India shall designate the arbitral institution for the appointment of arbitrators. In case of national arbitrations, the High Court shall designate arbitral institutions. The Arbitration Council of India must have graded these arbitration institutions. These arbitral institutions must complete the selection process within thirty days of accepting the request for the arbitrator's appointment.

VI) The Arbitral Procedure

- a) Effective Date of Entering Reference: The arbitral tribunal shall be deemed to have entered the reference on the date on which the arbitrator(s) have received notice of their appointment. All subsequent time limits shall be counted from such date.
- b) Seat and Venue of Arbitration: The seat of arbitration shall be the place from which the letter of Award or the contract is issued. The venue of arbitration shall be the same as the seat of arbitration. However, in terms of section 20 of the arbitration Act, the arbitrator, at his discretion, may determine a venue other than the seat of the arbitration without in any way affecting the legal jurisdictional issues linked to the seat of the arbitration.
- c) If the Adjudication and/or Conciliation mechanisms had not been exhausted before such reference to Arbitration, the Arbitrator should ask the aggrieved party to approach designated authority for such mechanisms before the Arbitration proceedings are started.



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- d) The claimant shall submit to the Arbitrator(s) with copies to the respondent all claims stating the facts supporting the claims along with all the relevant documents and the relief of remedy sought against each claim within 30 days from the date of appointment of the Arbitral Tribunal unless otherwise extension has been granted by Arbitral Tribunal.
- e) On receipt of such claims, the respondent shall submit its defence statement and counter claim(s), if any, within 60 days of receipt of the copy of claims, unless otherwise extension has been granted by Arbitral Tribunal.
- f) No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during arbitration proceedings subject to acceptance by the Tribunal having due regard to the delay in making it.
- g) Statement of claims, counterclaims and defence shall be completed within six months from the effective reference date.
- h) Oral arguments to be held on a day-to-day basis: Oral arguments as far as possible shall be heard by the arbitral tribunal on a day-to-day basis, and no adjournments shall be granted without sufficient cause. The arbitrator(s) may impose an exemplary cost on the party seeking adjournment without sufficient cause.
- i) Award within 12 (twelve) months: The arbitral tribunal is statutorily bound to deliver an award within 12 (twelve) months from the date when the arbitral tribunal enters reference. The award can be delayed by a maximum of six months only under exceptional circumstances where all parties consent to such extension of time. The court's approval shall be required for further extension if the award is not made out within such an extended period. During the period of an application for extension of time is awaiting before the court, the arbitrator's proceedings shall continue until the disposal of the application.
- j) Fast Track Procedure: The parties to arbitration may choose to opt for a fast-track procedure either before or after the commencement of the arbitration. The award in fast-track arbitration is to be made out within six months, and the arbitral tribunal shall be entitled to additional fees. The salient features of the fast-track arbitration are:
 - a) The dispute is to be decided based on written pleadings only.
 - b) Arbitral Tribunal shall have the power to call for clarifications in addition to the written pleadings where it deems necessary.
 - c) An oral hearing may be held only if the entire parties request or the arbitral tribunal considers it necessary.
 - d) The parties are free to decide the fees of the arbitrator(s) for fast-track procedure.
- k) Powers of Arbitral Tribunal to grant Interim Relief: The parties to arbitration may approach the arbitral tribunal for seeking interim relief on the grounds available under



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

section 9 of the act. The tribunal has the powers of a court while making interim awards in the proceedings before it.

- l) Confidentiality: As provided in Section 42A of The Arbitration Act, all the details and particulars of the arbitration proceedings shall be kept confidential, except in certain situations like if the disclosure is necessary for the implementation or execution of the arbitral award.
- m) Obligation During Pendency of Arbitration: Performance of the contract shall, unless otherwise directed by the Procuring Entity, continue during the arbitration proceedings, and no payment due or payable by the Procuring Entity shall be withheld on account of such proceedings, provided however, it shall be open for Arbitral Tribunal to consider and decide whether or not the performance of the contract or payment therein should continue during arbitration proceedings

VII) The Arbitral Award

- a) In the case of the Tribunal, comprising of three members, any ruling on award shall be made by a majority of members of the Tribunal. In the absence of such a majority, the view of the Presiding Arbitrator shall prevail.
- b) The arbitral award shall state item-wise the sum and reasons upon which it is based. The analysis and reason shall be detailed enough so that the award can be inferred from it.
- c) It is further a term of this arbitration agreement that where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made in terms of Section 31(7) (a) of the Arbitration Act
- d) The award of the arbitrator shall be final and binding on the parties to this contract
- e) A party may apply for corrections of any computational errors, typographical or clerical errors, or any other error of similar nature occurring in the award or interpretation of a specific point of the award to the Tribunal within 60 days of receipt of the award.
- f) A party may apply to the Tribunal within 60 days of receiving the award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

VIII) Savings

The Arbitral Tribunal shall decide any matter related to Arbitration not covered under this Arbitration Agreement as per the provisions of The Arbitration Act

IX) Cost of Arbitration and fees of the Arbitrator(s)

- a) The concerned parties shall bear the cost of arbitration in items of section 31(A) of The Arbitration Act The cost shall inter-alia include fees of the Arbitrator Further, the fees payable to the Arbitrator shall be governed by instructions issued on the subject by the Procuring Entity and/ or the Government from time to time, in line with the Arbitration and Conciliation Act, irrespective of the fact whether the Arbitrator is appointed by the Procuring Entity or the Government under this clause or by any court of law unless



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

directed explicitly by Hon'ble court otherwise on the matter A sole arbitrator shall be entitled to a 25% extra fee over such a prescribed fee.

- b) The arbitrator shall be entitled to a 50 percent extra fee if the award is made within 6 months in terms of provisions contained in section 29 (A) (2) of the Arbitration Act.
- c) Besides the above, Arbitrator shall also be entitled to this extra fee in cases where Fast Track Procedure in terms of section 29 (B) of The Arbitration Act is followed.

f) GUARANTEE / WARRANTY:

6.1 Guaranty/warranty will start from the date of final acceptance of project after completion of successful final acceptance of project by BSF. Firm has to provide the following documents: -

- (a) Bid specific authorization letter from all OEM to participate in bid mentioning the support of minimum 07 years (02 years of OEM or their warranty).
- (b) OEM letter confirming Products quoted are not end-of-life for the further period of 7 years from the date of Final Acceptance. In case, any equipment of the network gets defective and could not be repaired due to obsolescence of the product, the equipment will be replaced by other equivalent equipment or upgraded equipment of same OEM. In case, the up gradation of any particular component leads to requirement of up gradation of other component of the network, it will be done by firm without any additional cost to BSF.
- (c) Firm should ensure to keep adequate spare equipment's of same Make & Model installed in the network in order to keep the network serviceable 24X7.

g) PRICE:

The Price quoted shall be on firm and fixed basis subject to no variation whatsoever during the currency of the contract.

h) PATENT AND OTHER INDUSTRIAL/ INTELLECTUAL PROPERTY RIGHT:

The prices quoted in the present tender shall be deemed to include all amounts payable for the use of patents, copyright, registration charges, trademarks and payment for any other industrial property/rights. The tender shall identify the Purchaser against all claims from a third party at any time on account of infringement of any or all the rights mentioned in the previous paragraphs, whether such claims arise in respect of manufacture or the use. The Bidder shall be responsible for the completion of the supplied, irrespective of the fact of infringement of any or all the rights mentioned above.

i) TRANSFER AND SUB-LETTING:

The Bidder has no right to give, bargain, sell, assign or sublet or otherwise dispose of the resultant contract or any part thereof as well as to give or to let a third party take benefit of advantage of the resultant contract or any part thereof.

j) PENALTY FOR USE OF UNDUE INFLUENCE:

The seller should undertake that he has not given, offered or promised to give directly or indirectly any gift, consideration, reward, commission, fees brokerage of inducement to any person in service of the Purchaser or otherwise in Procuring, the Contract or Forbearing to do or for having done or forborne to do any act in relation or execution of the Contract or any other Contract with the Government for showing or forbearing to show favour or disfavor to any person in relation to the Contract or any other Contract with the Government. Any breach of the aforesaid undertaking



by the seller or any one employed by him or acting on his behalf (whether with or without the knowledge of the seller) or the commission of any offers by the seller or any one employed or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1947 or any other Act enacted for the prevention of corruption shall entitle the Purchase to cancel the contract and all or any other Contract with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Purchaser or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the seller. Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the seller towards any officer/employee of the Purchaser or to any other person in a position to influence any officer/employee of the Purchaser for showing any favor in relation to this or any other contract, shall render.

k) SPECIAL CONDITIONS:

11.1 Fall Clause

- a) The Bidder undertakes that he has not supplied/ is not supplying the similar systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India and if it is found at any stage that the similar system or sub- system was supplied by the Bidder to any other Ministry/Department of the Government of India at a lower price, then that very price with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Buyer, if the contract has already been concluded.
- b) The seller should undertake that he has not given, offered or promised to give directly or indirectly any gift, consideration, reward, commission fees brokerage of inducement to any person in service of the Purchaser or otherwise in Procuring, the Contract or Forbearing to do or for having done or forborne to do any act in relation or execution of the Contract or any other Contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government Any breach of the aforesaid undertaking by the seller or any one employed by him or acting on his behalf (whether with or without the knowledge of the seller) or the commission of any offers by the seller or any one employed or acting on his behalf , as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1947 or any other Act enacted for the prevention of corruption shall entitle the Purchase to cancel the contract and all or any other Contract with the Seller and recover from the Seller the amount of any loss arising from such cancellation, A decision of the Purchaser or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the seller, Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the seller towards any officer/employee of the Purchaser or to any other person in a position to influence any officer/employee of the Purchaser for showing any favour in relation to this or any other contract, shall render.

11.2 RISK PURCHASE CLAUSE

- a) In the event of failure of supplier to deliver or dispatch the stores or provide the required services within the stipulated dates/period of the supply order/AT, or in the event of breach of any of the terms and condition of the AT, the purchaser will have the right to purchase the subject store elsewhere at the risk and cost of defaulting supplier after giving a notice



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

to defaulting supplier, The cost as per Risk Purchase exercise may be recovered from the bills pending with the supplier even against any other supplies outside this contract or even from the pending bills with any other Govt, Department/Ministry.

- b) In the event of contract being cancelled for any breach committed and the purchaser effecting re-purchase of the subject store at the risk and cost of contractor, the purchaser is not bound to accept the lower offer of Benami or allied sister concern of the firm.

11.3 Any information furnished by the bidder in support of their eligibility of tender conditions, past performance, and all other relevant to the tender found fake, incorrect or fraudulent, then the bidder will be liable for taking action, cancellation of contract and further Debarment from EPIL as well as other Central Government Department's tender and other legal recourse thereof.

11.4 All bidders are liable to field their equipment for trial within given date & time at a desired place. Failing which EMO of the bidder shall be liable to be forfeited without any further notice. Failing which action will taken against the bidder as per above Para 11.3.

- l) In case of any defect in supply or manufacturing or not conforming to technical specifications, observed during survey at consignee location or later during the warranty period, the Bidder will be liable to replace the defective store at their cost

m) LAWS GOVERNING THE CONTRACT:

The contract shall be governed by the laws of India for the time being in force. The contract shall be interpreted in accordance with these laws.

n) JURISDICTION OF COURT:

The Court. of the New Delhi shall alone have a jurisdiction to decide any dispute arising out of or in respect of the contract. In the case of dispute or difference arising between the purchaser and the supplier relating to any matter arising out of or connected with the contract, Such dispute or difference shall be settled in accordance with the Indian Arbitration and Conciliation Act, 1996. Arbitration Proceedings shall be held at New Delhi, India and the language of the arbitration Proceedings and that of all documents and communications between the parties shall be English.

- o) Bulk supplies in the case of successful Bidder should conform to tender samples accepted in trial evaluation in all respect besides specifications mentioned in **Annexure-3**.

- p) Any change in Address/Telephone/e-mail should be immediately informed. The state of non-communication by the firm will make the offer liable for rejection.

q) GOVT. REGULATIONS:

It shall also be confirmed that there are no Govt. restrictions or limitation in the country of the supplier or countries from which sub-components are being procured and/or for the export of, my part of the system being supplied. Suppliers/Contractors shall provide a certificate to this effect.

- r) For any change in terms and condition of tender/tender specifications, the Bidders are requested to visit CPP e-Procurement site <https://eprocure.gov.in/eprocure/app> regularly.

27. SPECIAL CONDITIONS OF CONTRACT:



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

1	PRE-CONTRACT INTEGRITY PACT	
	1.1	Signing of Pre-Contract Integrity Pact is pre-requisite and a mandatory requirement without which no bids would be accepted (Proforma attached at Appendix-11).
	1.2	Authorized signatories of the interested Firms will have to sign the Pre-Contract Integrity Pact in the presence of a witness and upload it with their bid documents. No request for signing of the pact by any bidder would be entertained after bid submission end date & time.
2	Cost incurring on travelling, fooding and lodging of the trainers shall be borne by the firm. The firm shall work out the modality of training in consultation with BSF.	
3	After Sale Service:- Firms are required to provide one copy of 100% illustrated list of spare parts along with the technical bid and also submit their price (separately) with the price bid in pdf form. The total cost of all parts should not exceed 1.5 times of the price quoted for individual equipment.	
	3.1	Any spare not mentioned in the price list of spares asked for and subsequently required by the purchaser, the firm is bound to provide such spare parts free of cost to the purchaser.
4	Rates quoted by firm should be inclusive of Freight charges.	
5	Engineering support package as mentioned in the QRs must be provided by the firm. An undertaking in this regard shall also be submitted along with the bids.	
6	The bidder must submit the undertaking as per QRs/ Trial directive along with technical bid.	
7	INSURANCE: -Insurance of stores will be governed as per clause 5.1.4 (xii)(d) of chapter 5 of Manual for procurement of goods 2017 of MOF	
8	If the firm is MSEs (Micro, Small Enterprises) & Startups, copy of valid certificates to be provided with Technical Bid otherwise no benefits of such firm will be allowed.	
9	Date of preparation of Bid Securing Declaration and undertaking regarding should not be before the date of publishing of tender on CPPP.	
10	MAJOR DISCREPANCY:- During preliminary examination of bid documents of participated Firms, those bids that do not meet the basic requirements are to be treated as unresponsive and ignored. The following are the important points by which a bid may be declared as unresponsive and to be ignored, during the initial scrutiny: -	
	10.1	The bid validity is shorter than the required period.
	10.2	Payment terms as per TE have not been accepted.
	10.3	If bidder has submitted conditional bid.
	10.4	The bidder has not accepted delivery terms & period as mentioned in the tender.
	10.5	The bidder has not submitted compliance statement in format (Appendix-1) along with supporting technical documents/proof for each point/parameter clearly showing it is complied with or not.
	10.6	The Manufacturer (OEM) has not provided valid MOU / authority letter
	10.7	The bidder has not uploaded Pre-Contract integrity Pact duly signed wherever applicable.
	10.8	The bidder has not agreed to give the required Performance Security.
	10.9	The goods quoted do not meet the required specifications, etc.
	10.10	Certificate indicating percentage of Local Content requirement for Class – I Local Supplier and Class – II Local Supplier should be enclosed.
	10.11	Certificate regarding compliance of Ministry of Finance, Department of Expenditure, Public Procurement Division order dated 23.07.2020.



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

28. OBJECTIVE OF EOI:

- I) The submitted financial bid by the bidders as per scope of work and terms & conditions of Tender No:P-4/PC/1123/BSF/2025/2243-44 Dated: 09-05-2025 on CPP portal. The bidders have to submit their price bids in sealed envelopes upto the date and time of submission of bid specified by EPIL. EPIL will enter in MOU for Pre Tender Tie Up with qualified L1 bidder. **The bidders are advised not to submit financial offer online.**
- II) The successful L-1 bidder shall have to submit an undertaking on their letter head mentioning therein that after empanelment or entering into the tender, they will not back out from this tender / contract / empanelment before end date of EOI or they will not modify any term & condition of this EOI. If they fail to adhere/comply the terms & conditions of EOI, EPIL without giving any justification /explanation.

29. RESOLUTION OF DISPUTES:

In the case of dispute or difference arising between the Purchaser and the Supplier relating to any matter connected with this contract, the same shall be settled through amicable negotiations between a maximum of Two (2) officers nominated by the competent authority of BSF and Two (2) employees nominated by the Supplier, failing which, the dispute shall be submitted to arbitration in accordance with the provisions of the Arbitration and Conciliation Act, and the Arbitrator's decision shall be final & binding. The language of arbitration shall be English. The venue of the judicial proceedings conciliation and/or arbitration proceedings shall be in Delhi, India.

30. GUIDELINES FOR PREPARATION OF RESPONSE/ BID AGAINST THIS EOI:

1. The EOI should be submitted as per the clauses of this EOI document. Any EOI not found in order as per the clauses and responsive to the details mentioned in this document may be rejected.
2. The bidder is requested to review their responses before final submission of their BID in response to the EOI as the response once submitted shall be considered as final and any revision to the response will not be permitted, unless there are genuine reasons for such revision.
3. The EOI bid documents submitted should be properly indexed, proper page numbering and proper binding.
4. Submission of responses to **EOI in CPP portal (Online) & hard copy**. Any deviation of the points will lead to the summarily rejection of the bidder.
5. Bidders have to submit the **Technical Bid** on CPP portal (Online) & in hard copy.
6. Bidders have to submit the **Financial Bid in sealed Envelope** hard copy (offline).
7. The bidders need to provide the details of the point of contact who shall be contacted from EPIL for any matter pertaining to the empanelment / engagement or the Tendering process or any other mode for future business opportunities if any.
8. Details of pending litigation etc. on company letter head.

31. AMENDMENT TO THE INFORMATION DOCUMENT:

EPIL may, for any reason, whether at their own initiative or in response to a clarification requested by an interested bidder, modify this document through amendment. In such case, the following rules will apply:



Expression of Interest (EOI) for Pre-tender tie-up with Empanelled and Other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

- I) Any amendment shall be issued in writing through addendum.
- II) Addendum shall be uploaded on CPP-Portal. Any Bidder who wishes to receive the addendum via email can send a request through email for the same.
- III) Any such modification will overrule the original version and previously modified version.
- IV) EPIL at its discretion, may extend the deadline for submission of EOI, after considering the materiality of the amendment.

32. TERMS AND CONDITIONS:

- The bidders shall comply with all other terms and conditions of this EOI, as mentioned in the following tender number:

Tender Ref: P-4/TURNKEY PROJECT/PC(C-EQPT.) /1123/BSF/2025DATED: 09-05-2025 on CPP portal (<https://eprocure.gov.in/eprocure/app>) Tender ID: **2025_BSF_859612_1**

33. BID VALIDITY: 365 Days from End Date.

34. TECHNICAL SPECIFICATIONS: Technical Specification & QR &TDs: (Must Comply)

Qualitative Requirements and Trial Directives of Implementation of a Turnkey Project for Providing Voice & Data Network over OFC with Futuristic Plan for Integration of Surveillance Equipment's.
(Refer Annexure-3)

35. PRICE SCHEDULE (Refer BOQ FORMAT)

36. APPENDIX (1-17)



COVERING LETTER

(To be submitted on company letter head)

Offer Reference No: _____

Date: _____

To,
Engineering Projects (India) Limited
Core-3, Scope Complex, 7-Institutional Area,
Lodhi Road, Scope Complex,
New Delhi – 110003

Dear Sir,

Sub: Expression of Interest (EOI) from Empanelled and other Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under Frontier HQ Jammu.

Having examined EOI document bearing the reference number _____, dated _____ released by your esteemed organization, we, undersigned, hereby acknowledge the receipt of the same and offer to our organization as System Integrator (SI) including SITC, in full conformity with the terms and conditions outlined in the said EOI document.

If our offer is accepted, we hereby undertake to abide by all the terms and conditions mentioned in the EOI and **Reference Tender No: P-4/TURNKEY PROJECT/PC(C-EQPT.) /1123/BSF/2025** Dated: 09-05-2025 on CPP portal (<https://eprocure.gov.in/eprocure/app>) Tender ID: **2025_BSF_859612_1** for BSF Tender in the said above.

We hereby declare that all the information and supporting documents furnished as a part of our response to the said EOI, are true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us, our EOI is liable to be rejected.

Date:
(In the box)

Signature with seal –

Name:

Designation:



DETAILS OF POINT OF CONTACT
(To be submitted on company letter head)

(PLEASE USE BLOCK LETTERS TO FILL THE TABLE BELOW)

FirstName		Last Name	
Designation			
Official Address			
Contact Number (Office Landline)			
Mobile Number			
Official Email ID			

**QUALITATIVE REQUIREMENTS AND TRIAL DIRECTIVES OF IMPLEMENTATION
OF A TURNKEY PROJECT FOR PROVIDING VOICE & DATA NETWORK OVER OFC
WITH FUTURISTIC PLAN FOR INTEGRATION OF SURVEILLANCE EQUIPMENTS**

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
1. Joystick				
1.1	Interface	RS 485 (terminal black), Ethernet (RJ45)	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The interface must be as per requirement mentioned in the QRs.
1.2	Baud rate	300 bps ~ 115,200bps	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The Baud rate must be as per requirement mentioned in the QRs.
1.3	Supports Protocols	Over 70 sorts of PTZ protocol (IDIS, PANASONIC, PELCO, SAMSUNG etc)	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The supports protocols must be as per requirement mentioned in the QRs.
1.4	Support device	IP camera, NVR	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The support device must be as per requirement mentioned in the QRs.
1.5	Display	LCD (2 LINE)	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The display must be as per requirement mentioned in the QRs.
1.6	USB	Min 1 port	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The USB must be as per requirement mentioned in the QRs.
1.7	Audio in/out (Min)	1(3.5mm)/1(3.5m m	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The Audio in/out (Min) must be as per requirement mentioned in the QRs.
1.8	Component	Joystick main control board	The FAT report needs to be submitted & the functionality needs to be verified by the BOO	The component must be as per requirement mentioned in the QRs.

General:-

- Remote control of NVRs, DVRs, network video transmitters, network video receivers and network cameras via network connection.
- Control of NVRs by using a USB mouse via network connection.
- Two-way audio communication.
- Convenient firm are upgrades via either the USB port or Ethernet.
- Firm are duplication and auto-recovery functions to enhance system.
- Stability
- Management of Multiple network keyboards via network connection.
- Programmable by using the LCD screen.

To be checked physically by BOO.

All additional items must be as per requirement mentioned in the QRs.

2. 3C X 2.5 SQ MM IS 1554 Standard Part-I or latest cable

[Handwritten signatures and initials are present at the bottom of the page, including "Sadeem", "Nandya", and others.]

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
2.1	Conductor Dia	2.5 square mm	To be checked physically by BOO	The Conductor Dia must be as per requirement mentioned in the QRs.
2.2	Armour	Insulated bare copper, GI Wire armouring inner and outer PVC Sheathed IS 1554 standard part-I or latest.	To be checked physically by BOO	Armour must be Insulated bare copper, GI Wire armouring inner and outer PVC Sheathed IS 1554 standard part-I or latest
2.3	No. of Cores	3	To be checked physically by BOO	Cores must be 3.
2.4	Voltage Level	1.1KV	Firm has to submit the OEM certificate.	Voltage level must be as per requirement mentioned in the QRs.

3. SFP Module 10G for OLT and Core Switch

3.1	SFP MSA package with duplex LC connector.	To be physically checked by the BOO.	The SFP MSA package with duplex LC connector must be as per the requirement mentioned in the QRs.
3.2	Very low EMI and excellent ESD protection.	To be physically checked by the BOO.	The specifications must be as per the requirement mentioned in the QRs.
3.3	Digital Diagnostic Monitor Interface.	To be physically checked by the BOO.	System must have Digital Diagnostic Monitor Interface.
3.4	Hot pluggable.	To be physically checked by the BOO.	System must be Hot pluggable.
3.5	10Gb/s serial optical interface.	To be physically checked by the BOO.	System must have 10GB/s serial optical interface.
3.6	Up to 10km distance.	To be physically checked by the BOO.	System must be upto 10km distance.
3.7	Compliant with SFP+ MSA.	To be physically checked by the BOO.	System must be compliant with SFP+MSA.
3.8	High transmission margin.	To be physically checked by the BOO.	System must have High transmission margin.
3.9	+3.3V single power supply.	To be physically checked by the BOO.	System must have +3.3V single power supply
3.10	Below <1.5W power consumption	To be physically checked by the BOO.	System must have Below <1.5W power consumption.
3.11	SFP mechanical	To be physically checked by the BOO.	System must have SFP mechanical interface.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
			sheet	mentioned in the QRs.
4.13	Input Pigtail Length	1m (maximum)	Specification to be verified by the BOO through specification sheet	Input Pigtail Length must be as per the requirement mentioned in the QRs.
4.14	Output Pigtail Length	1m (maximum)	Specification to be verified by the BOO through specification sheet	Output Pigtail Length must be as per the requirement mentioned in the QRs.
4.15	Pigtail Diameter	900µm	Specification to be verified by the BOO through specification sheet	Pigtail Diameter must be as per the requirement mentioned in the QRs.
4.16	PLC splitter should have housed in CRCA powder coated rugged metallic enclosure	Yes	Specification to be verified by the BOO through specification sheet	PLC splitter must be housed in CRCA powder coated rugged metallic enclosure
4.17	PLC splitter should be able to work under harsh weather condition	Yes	Specification to be verified by the BOO through specification sheet	PLC splitter must be able to work under harsh weather condition

5.. 2:8 Optical Power Splitter

5.1	Operating wavelength	PLC: 1260~1650 nm	Specification to be verified by the BOO through specification sheet	Operating wavelength must be as per the specifications mentioned in the QRs.
5.2	Maximum Insertion Loss	11.0 dB	Specification to be verified by the BOO through specification sheet	Maximum Insertion loss must be as per the specifications mentioned in the QRs.
5.3	Uniformity	<1.60 dB	Specification to be verified by the BOO through specification sheet	Uniformity must be as per the specifications mentioned in the QRs.
5.4	Maximum Polarization Dependent Loss (PDL)	0.25 dB (maximum)	Specification to be verified by the BOO through specification sheet	Maximum PDL must be as per the specifications mentioned in the QRs.
5.5	Directivity	>55 dB	Specification to be verified by the BOO through specification sheet	Directivity must be as per the specifications mentioned in the QRs.
5.6	Return Loss	>55 dB	Specification to be verified by the BOO through specification sheet	Return Loss must be as per the specifications mentioned in the QRs.
5.7	Operating Temperature	-40~+85°C	Specification to be verified by the BOO through specification sheet	Operating temperature must be as per the specifications mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
5.8	Storage Temperature	-40~+85°C	Specification to be verified by the BOO through specification sheet	Storage temperature must be as per the specifications mentioned in the QRs.
5.9	Operating relative humidity	5~95%UR	Specification to be verified by the BOO through specification sheet	Operating relative humidity must be as per the specifications mentioned in the QRs.
5.10	Storage relative humidity	5~95%UR	Specification to be verified by the BOO through specification sheet	Storage relative humidity must be as per the specifications mentioned in the QRs.
5.11	Operating wavelength	FBT: 1260~1650 nm	Specification to be verified by the BOO through specification sheet	Operating wavelength must be as per the specifications mentioned in the QRs.
5.12	Storage relative humidity	5~95%UR	Specification to be verified by the BOO through specification sheet	Storage relative humidity must be as per the specifications mentioned in the QRs.

Dimensional features for splitter with connector

5.13	Length (P)	55 +/- 5mm	Specification to be verified by the BOO through specification sheet	Length (P) must be as per the specifications mentioned in the QRs.
5.14	Width (L)	7mm (maximum)	Specification to be verified by the BOO through specification sheet	Width (A) must be as per the specifications mentioned in the QRs.
5.15	Height (A)	4mm (maximum)	Specification to be verified by the BOO through specification sheet	Height (A) must be as per the specifications mentioned in the QRs.
5.16	Input Pigtail Length	1m (maximum)	Specification to be verified by the BOO through specification sheet	Input Pigtail Length must be as per the specifications mentioned in the QRs.
5.17	Output Pigtail Length	1m (maximum)	Specification to be verified by the BOO through specification sheet	Output Pigtail Length must be as per the specifications mentioned in the QRs.
5.18	Pigtail Diameter	900µm	Specification to be verified by the BOO through specification sheet	Pigtail diameter must be as per the specifications mentioned in the QRs.
5.19	PLC splitter should have housed in CRCA powder coated rugged metallic enclosure	Yes	Specification to be verified by the BOO through specification sheet	PLC splitter must have housed in CRCA powder coated rugged metallic enclosure
5.20	PLC splitter should be	Yes	Specification to be verified by the BOO through specification	PLC splitter must be able to work under harsh

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	able to work under harsh weather condition		sheet	weather condition

6. . 12 Core Single Mode Optical Fiber Cable

(A) Optical Fibre Sensor Cable:

6.1	Loose Tube jelly filled Multi tube design	Loose Tube jelly filled Uni-tube design	Specification to be verified by the BOO through specification sheet	Loose Tube jelly must be as per the requirement mentioned in the QRs.
6.2	Single Mode	(ITU-T Rec. G652D) Fibre	Firm has submitted the OEM certificate	Single mode must be as per the requirement mentioned in the QRs.
6.3	Attenuation	At 1310nm ≤ 0.38 dB/Km	Firm has submitted the OEM certificate	Attenuation must be as per the requirement mentioned in the QRs.
6.4	Attenuation	At 1550 nm ≤ 0.25 dB/Km	Firm has submitted the OEM certificate	Attenuation must be as per the requirement mentioned in the QRs.
6.5	Core Diameter	9/125/250 μ m	Firm has submitted the OEM certificate	Core Diameter must be as per the requirement mentioned in the QRs.
6.6	Clad Diameter	125 \pm 1.0 μ m	Firm has submitted the OEM certificate	Clad diameter must be as per the requirement mentioned in the QRs.
6.7	Clad non circularity	$\leq 1.0\%$	Firm has submitted the OEM certificate	Clad non circularity must be as per the requirement mentioned in the QRs.
6.8	Coating Diameter	245 \pm 10 μ m	Firm has submitted the OEM certificate	Coating Diameter must be as per the requirement mentioned in the QRs.
6.9	Chromatic Dispersion	At 1550 nm ≤ 18.0 ps/nm.km	Firm has submitted the OEM certificate	Chromatic Dispersion must be as per the requirement mentioned in the QRs.
6.10	Zero Dispersion wave length	1300 ~1324 nm	Firm has submitted the OEM certificate	Zero Dispersion wave length must be as per the requirement mentioned in the QRs.
6.11	Zero Dispersion slop	≤ 0.092 ps/nm ² .km	Firm has submitted the OEM certificate	Zero Dispersion slop must be as per the requirement mentioned in the QRs.
6.12	Cut-off Wavelength	i) Fiber cut off wavelength: ≤ 1320 nm. ii) Cable cut off wavelength: ≤ 1260 nm.	Specification to be verified by the BOO through specification sheet	Cut-off wavelength must be as per the requirement mentioned in the QRs.
6.13	Polarization Mode Diameter	≤ 0.2 ps/root km	Firm has submitted the OEM certificate	Polarization Mode Diameter must be as per the requirement

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				mentioned in the QRs.
6.14	Mode Field Diameter	At 1310 nm $9.2 \pm 0.4 \mu m$	Firm has submitted the OEM certificate	Mode Field Diameter must be as per the requirement mentioned in the QRs.
6.15	Fibre Identification	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Pink & Natural.	Specification to be verified by the BOO through specification sheet	Fibre Identification must be as per the requirement mentioned in the QRs.
6.16	No. of fibres	12 F	Firm has submitted the OEM certificate	Fibres must be 12 F as per the requirement mentioned in the QRs.
6.17	Moisture Barrier	Single layer of water swellable tape / Polyester Tape applied longitudinally	Firm has submitted the OEM certificate	Moisture Barrier must be as per the requirement mentioned in the QRs.

(B) Strength:

6.18	Type (Outer Jacket)	2# Steel wire /FRP RODs	Firm has submitted the OEM certificate	Type (Outer Jacket) must be as per the requirement mentioned in the QRs.
6.19	Type (Peripheral)	Aramid Yarn/Glass Yarn	Firm has submitted the OEM certificate	Type (Peripheral) must be as per the requirement mentioned in the QRs.

(C) Mechanical and Environmental:

6.20	Max Tensile Strength	3500 Newton	Firm has submitted the OEM certificate	Max Tensile Strength must be as per the requirement mentioned in the QRs.
6.21	Crush Resistance	Newton 4000/10 cm	Firm has submitted the OEM certificate	Crush Resistance must be as per the requirement mentioned in the QRs.
6.22	Minimum Bending radius	20 x Diameter	Firm has submitted the OEM certificate	Minimum Bending radius must be as per the requirement mentioned in the QRs.
6.23	Operating Temperature	-30°C to +70°C	Firm has submitted the OEM certificate	Operating Temperature must be as per the requirement mentioned in the QRs.

7. 24 Port Fiber LIU Fully Loaded With Single_Mode Sc Adopter, Adaptor Plate and Pigtail

7.1	24 Ports Adapter with 4 adapter plates of 6 fibre each	To be checked physically by BOO	24 Ports adaptor must be as per the requirement mentioned in the QRs.
7.2	Consist of Top Cover and Bottom Panel	To be checked physically by BOO	Top Cover and Bottom Panel must be as per the requirement mentioned in the QRs.
7.3	Easy to Assemble and Dissemble	To be checked physically by BOO	Assemble and Dissemble must be as per the

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				requirement mentioned in the QRs.
7.4	Four cable entry ports		To be checked physically by BOO	Entry ports must be as per the requirement mentioned in the QRs.
7.5	Cable Entry Through Water Proof Cable Clamp		To be checked physically by BOO	Cable entry must be as per the requirement mentioned in the QRs.
7.6	Splice Max 12 Fibres at Most with 1 Tray		To be checked physically by BOO	Splice max must be as per the requirement mentioned in the QRs.
7.7	Patch Cord with Bend Radius Guides Minimize Macro Bending		To be checked physically by BOO	Patch cord must be as per the requirement mentioned in the QRs.
7.8	Install 2 Cable Management Rings/Cable Routing guide Inside to Ensure Flexibility		To be checked physically by BOO	Install 2 cable management must be as per the requirement mentioned in the QRs.
7.9	Comprehensive Accessory Kits for Cable Entry and Fibre Management		To be checked physically by BOO	Comprehensive Accessory kits must be as per the requirement mentioned in the QRs.
7.10	Body Material : Powder Coated CRCA		To be checked physically by BOO	Body material must be power coated CRCA.
7.11	Miscellaneous ADAPTOR (SC) SC/ adaptors should be Simplex type. Telcordia GR-326-Core. RoHS Compliance Low Insertion Adapters should have compact design & high precision Telcordia, TIA/EIA, IEC compliance ≤ 0.20 db for Zirconia Sleeve Durability (1000 Matings): ≤ 0.2 db Main Body Material: Glass filled PBT SC		To be checked physically by BOO	As per the requirement mentioned in the QRs.

8. . SC-LC Fiber Duplex Patch Cord

8.1	Range of Mode	Single Mode	Specification to be verified by the BOO through specification sheet	Range of mode must be as per the requirement mentioned in the QRs.
8.2	Cable Type	Duplex	Specification to be verified by the BOO through specification sheet	Cable type must be as per the requirement mentioned in the QRs.
8.3	Zip cord Connector Style	SC-LC	To be checked physically by BOO	Zip cord connector steeple must be as per the requirement mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
8.4	Interface Type	PC, UPC, APC Cable	Specification to be verified by the BOO through specification sheet	Interface type must be as per the requirement mentioned in the QRs.
8.5	Diameter	0.9mm, 2.0mm, 3.0mm	To be checked physically by BOO	Diameter must be as per the requirement mentioned in the QRs.
8.6	Lengths	Standard & Custom Lengths	Specification to be verified by the BOO through specification sheet	Lengths must be as per the requirement mentioned in the QRs.
8.7	Member	Aramid Yarn	Specification to be verified by the BOO through specification sheet	Member must be as per the requirement mentioned in the QRs.
8.8	Outer Jacket	PVC or LSZH	Specification to be verified by the BOO through specification sheet	Outer Jacket must be as per the requirement mentioned in the QRs.
8.9	Cable Assembly Length	15 meter Tolerance (+/- 10%)	Specification to be verified by the BOO through specification sheet	Cable Assembly length must be as per the requirement mentioned in the QRs.
8.10	Durability	500 cycles(0.2 dB max increase),	Specification to be verified by the BOO through specification sheet	Durability must be as per the requirement mentioned in the QRs
8.11	Operating Temp	-20 °C to +70°C	Specification to be verified by the BOO through specification sheet	Operating temp must be as per the requirement mentioned in the QRs.
8.12	Storage Temp	-20 °C to +75°C	Specification to be verified by the BOO through specification sheet	Storage temp must be as per the requirement mentioned in the QRs.
8.13	Ferrule Concentricity	< 1µm	Specification to be verified by the BOO through specification sheet	Ferrule concentricity must be as per the requirement mentioned in the QRs.

9.. LC-LC Fiber Duplex Patch Cord

Single mode fibre optic patch cables send one light signal at a time and can be used for longer runs than multimode because they have more resistance to attenuation. The core of the single mode fibre optic cable is 9/125µ (micron). Single mode LC-LC fibre optic patch cables can support gigabit Ethernet applications for up to 10 kilometres

9.1	Length	3m (maximum)	To be checked physically by BOO	Length must be as per the requirement mentioned in the QRs.
9.2	Connectors	LC-LC	To be checked physically by BOO	Connectors must be as per the requirement mentioned in the QRs.
9.3	Maximum connector loss	0.30dB	Specification to be verified by the BOO through specification sheet	Maximum connector loss must be as per the requirement mentioned in the QRs.
9.4	Typical connector loss	0.30dB (maximum)	Specification to be verified by the BOO through specification sheet	Typical connector loss must be as per the requirement mentioned in the QRs.

Handwritten signatures and dates are present at the bottom of the page, including "06.05.22" and "Nanjagil".

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				the QRs.
9.5	Typical return loss	-50 dB (maximum)	Specification to be verified by the BOO through specification sheet	Typical return loss must be as per the requirement mentioned in the QRs.
9.6	Buffer material	PVC	Specification to be verified by the BOO through specification sheet	Buffer material must be as per the requirement mentioned in the QRs.
9.7	Buffer OD	900 μm (+/- 50 μm)	Specification to be verified by the BOO through specification sheet	Buffer OD must be as per the requirement mentioned in the QRs.
9.8	Jacket material	LSZH	Specification to be verified by the BOO through specification sheet	Jacket material must be as per the requirement mentioned in the QRs.
9.9	Operating temperature	-20°C to +70°C	Specification to be verified by the BOO through specification sheet	Operating temperature must be as per the requirement mentioned in the QRs.

10.. SC-SC Fiber Duplex Patch Cord

10.1	Cable Diameter	3.0mm duplex	To be checked physically by BOO	Cable Diameter must be as per the specifications mentioned in the QRs.
10.2	Cable Type	Single Mode	To be checked physically by BOO	Cable type must be as per the specification mentioned in the QRs.
10.3	Reflection	Low back reflection and insertion loss	Specification to be verified by the BOO through specification sheet	Reflection must be as per the specification mentioned in the QRs.
10.4	Quality	Premium quality UPC ceramic ferrule for best performance	Specification to be verified by the BOO through specification sheet	Quality must be as per the specification mentioned in the QRs.
10.5	Cable Material	PVC	Specification to be verified by the BOO through specification sheet	Cable material must be as per the specification mentioned in the QRs.
10.6	Fiber Type	Single mode 9/125	Specification to be verified by the BOO through specification sheet	Fiber type must be as per the specification mentioned in the QRs.
10.7	Insertion Loss (Typical)	0.15 dB	Specification to be verified by the BOO through specification sheet	Insertion Loss (typical) must be as per the specification mentioned in the QRs.
10.8	Insertion Loss (Maximum)	0.30 dB	Specification to be verified by the BOO through specification sheet	Insertion loss (max) must be as per the specification mentioned in the QRs.
10.9	Return Loss	≤ -50 dB (UPC)	Specification to be verified by the BOO through specification sheet	Return loss must be as per the specification mentioned in the QRs.
10.10	Operational Temperature	-20°C to +70°C	Specification to be verified by the BOO through specification sheet	Operational temperature must be as per the specification mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
10.11	Tested	100% Fully Tested	Firm has submitted the OEM certificate	Cord must be 10% fully tested.
10.12	Length-	1 mtr (maximum)	To be checked physically by BOO	Length must be as per the specification mentioned in the QRs.
10.13	Connectors	SC-SC	To be checked physically by BOO	Connectors must be as per the specification mentioned in the QRs.

11. . CAT-6 Patch Cord – 3 MTR






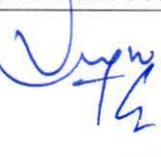




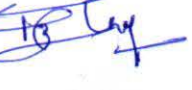
11.1	Type	Unshielded Twisted Pair, Category 6,TIA/ EIA 568-C.2	To be checked physically by BOO	Type of cord must be as per the specification mentioned in the QRs.
11.2	Conductor	24-26 AWG stranded copper.	Firm has submitted the OEM certificate	Conductor must be as per the specification mentioned in the QRs.
11.3	Length	3 meter (Maximum)	To be checked physically by BOO	Length must be as per the specification mentioned in the QRs.
11.4	Plug Protection	Matching colored snag-less, boot to maintain bend radius	Specification to be verified by the BOO through specification sheet	Plug protection must be as per the specification mentioned in the QRs.
11.5	Warranty	5-years component warranty, and 5-years performance warranty	Firm has submitted the OEM certificate	Warranty must be as per the specification mentioned in the QRs.
11.6	Category	Category 6 Plug	To be checked physically by BOO	Category must be as per the specification mentioned in the QRs.
11.7	Housing	Clear polycarbonate	To be checked physically by BOO	Housing must be as per the specification mentioned in the QRs.
11.8	Terminals	Phosphor Bronze with gold plating , 50 micron" gold over nickel	To be checked physically by BOO	Terminals must be as per the specification mentioned in the QRs.

12. . Layer 2 switch 24 Port Managed Switch with 4x10 G






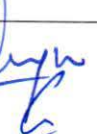


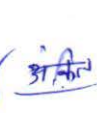
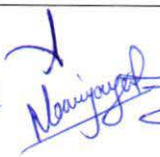
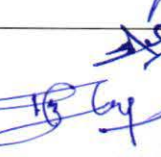

12.1	Performance Features	The switch should support Following switching capacity/Forwarding rate 24 GE RJ45 port with 4 nos. of 10G SFP+ uplinks 56 GBPs/83 Mbps or better	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO	The switch must support switch capacity/ Forwarding rate as per the requirement mentioned in the QRs.
		Switch should	Firm has submitted the OEM	Switch must have 2 GB

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		have 2 GB RAM and 4 GB Flash or better	certificate	RAM and 4 GB Flash.
		Shall have minimum 16K MAC Addresses and 1024 active VLANs.	The functionality needs to be verified by the board of officers through Data Sheet.	Shall must have minimum 16K MAC Addresses and 1024 active VLANs.
		Switch should have slot/ports(excluding uplinks) for minimum 80 Gbps of stacking bandwidth with dedicated stacking ports and cables with minimum 8 switch in stack	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must have slot/ports(excluding uplinks) for minimum 80 Gbps of stacking bandwidth with dedicated stacking ports and cables with minimum 8 switch in stack
		Switch should be able to support 3000 IPV4 & 1500 IPV6 routing entries.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must be able to support 3000 IPV4 & 1500 IPV6 routing entries.
		Switch should support minimum 512 Switched Virtual interfaces/ routed VLAN interfaces.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support minimum 512 Switched Virtual Interfaces.
		The switch should support Jumbo frames of 9198 bytes	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Jumbo frames of 9198 bytes
12.2	General Features	Proposed switch should be enterprise grade switch with x86 based CPU architecture	The functionality needs to be verified by the board of officers through Data Sheet.	Proposed switch must be enterprise grade switch with x86 based CPU architecture
		Layer 2, Routed Access (RIP, EIGRP Stub, OSPF - 1000 routes), PBR, PIM Stub Multicast (1000 routes), PVLAN, VRRP, PBR, CDP, QoS, FHS, 802.1X, MACsec-128,	The functionality needs to be verified by the board of officers through Data Sheet.	System must have Layer 2, Routed Access (RIP, EIGRP Stub, OSPF - 1000 routes), PBR, PIM Stub Multicast (1000 routes), PVLAN, VRRP, PBR, CDP, QoS, FHS, 802.1X, MACsec-128, CoPP, SXP, IP SLA Responder

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		CoPP, SXP, IP SLA Responder		
		The proposed switch should be software defined networking capable and be able to at least integrate easily with the industry standard SDN controllers.	The functionality needs to be verified by the board of officers through Data Sheet.	The proposed switch must be software defined networking capable and be able to at least integrate easily with the SDN controller from the same OEM.
		The Switch stack should be based on Distributed forwarding Architecture, where in each stack member forwards its own information on network.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch stack must be based on Distributed forwarding Architecture, where in each stack member forwards its own information on network.
		Switch should have unique secure identity so that its authenticity and origin can be confirmed with OEM. Switch BIOS, software image should be cryptographically signed to ensure integrity and switch should not boot with modified software regardless of user's privilege level.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must have unique secure identity so that its authenticity and origin can be confirmed with OEM. Switch BIOS, software image should be cryptographically signed to ensure integrity and switch should not boot with modified software regardless of user's privilege level.
		Switch shall support application visibility and traffic monitoring with minimum 16 K net Flow/sflow/jflow entries.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support application visibility and traffic monitoring with minimum 16 K netFlow/sflow/jflow entries.
		Switches should support both front and back beacon	The functionality needs to be verified by the board of officers through Data Sheet.	Switches must support both front and back beacon LEDs for easy

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		LEDs for easy identification of the switch being accessed.		identification of the switch being accessed.
		Switches should have hardware support to connect a Bluetooth dongle to your switch, enabling you to use this wireless interface as an IP management port interface.	The functionality needs to be verified by the board of officers through Data Sheet.	Switches must have hardware support to connect a Bluetooth dongle to your switch, enabling you to use this wireless interface as an IP management port interface.
12.3	High availability & Resiliency	Switch should support redundant field replicable platinum rated power supplies.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support redundant field replicable platinum rated power supplies.
		Switch should support redundant fans.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support redundant fans.
		Switch should support cross-stack ether channel.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support cross-stack ether channel.
		Switch should support embedded event manager scripts/GUI dashboard for easy monitoring	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support embedded event manager scripts
		After a reboot when power is restored to a switch, switch should start delivering power to endpoints without waiting for the operating system to fully load.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must start delivering power to endpoints without waiting for the operating system to fully load.
12.4	L2 Features	The switch should support Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		The switch should support IEEE 802.1Q VLAN encapsulation	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support IEEE 802.1Q VLAN encapsulation
		The switch should support Spanning-tree Port Fast and Port Fast guard for fast convergence	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Spanning-tree Port Fast and Port Fast guard for fast convergence
		The switch should support Uplink Fast & Backbone Fast technologies to help ensure quick failover recovery, enhancing overall network stability and reliability	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Uplink Fast & Backbone Fast technologies to help ensure quick failover recovery, enhancing overall network stability and reliability
		The switch should support Spanning-tree root guard to prevent other edge switches becoming the root bridge.	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Spanning-tree root guard to prevent other edge switches becoming the root bridge.
		The switch should support Voice VLAN to simplify IP telephony installations by keeping voice traffic on a separate VLAN	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Voice VLAN to simplify IP telephony installations by keeping voice traffic on a separate VLAN
		The switch should support Auto-negotiation on all ports to automatically selects half- or full-duplex transmission mode to optimize bandwidth	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Auto-negotiation on all ports to automatically selects half- or full-duplex transmission mode to optimize bandwidth
		The switch should support Automatic media-dependent interface crossover (MDIX) to automatically adjusts transmit	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Automatic media-dependent interface crossover (MDIX) to automatically adjusts transmit and receive pairs if an incorrect cable type

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		and receive pairs if an incorrect cable type (crossover or straight through) is installed.		(crossover or straight through) is installed.
		The switch should support Unidirectional Link Detection Protocol (UDLD) and Aggressive UDLD to allow for unidirectional links caused by incorrect fibre-optic wiring or port faults to be detected and disabled on fibre-optic interfaces.	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support Unidirectional Link Detection Protocol (UDLD) and Aggressive UDLD to allow for unidirectional links caused by incorrect fibre-optic wiring or port faults to be detected and disabled on fibre-optic interfaces
		The switch should support IGMP v1, v2 Snooping	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support IGMP v1, v2 Snooping.
		Switch should support IPv4 and IPv6The Switch should be able to discover (on both IPv4 & IPv6 Network) the neighbouring device giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support IPv4 and IPv6The Switch should be able to discover (on both IPv4 & IPv6 Network) the neighbouring device giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.
12.5	Network security features	The switch should support IEEE 802.1x providing user authentication, authorization and CoA.	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support IEEE 802.1x providing user authentication, authorization and CoA.
		The switch should support SSHv2 and SNMPv3 to provide network	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support SSHv2 and SNMPv3 to provide network security by encrypting

Shalee
06/05/22

(N)

&

Uyng

Shawna

3/1/23

3/1/23

3/1/23

Nanyang

10/1/23

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		security by encrypting administrator traffic during Telnet and SNMP sessions.		administrator traffic during Telnet and SNMP sessions.
		The switch should support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.
		The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support MAC address notification to allow administrators to be notified of users added to or removed from the network.
		The switch should support MACSec-128	The functionality needs to be verified by the board of officers through Data Sheet.	The switch must support MACSec-128
12.6	Quality of Service	Switch should support 802.1p Class of Service (CoS) and Differentiated Services Code Point (DSCP) field classification, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must support 802.1p Class of Service (CoS) and Differentiated Services Code Point (DSCP) field classification, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port.
12.7	Layer-3 Features should be supported post a license upgrade from	The Switch should support routing protocols such OSPF, BSR, IS-ISv4, LISP, VXLAN, VRF.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support routing protocols such OSPF, BSR, IS-ISv4, LISP, VXLAN, VRF.

Handwritten signatures and initials at the bottom left of the page.

Handwritten signature/initials.

Handwritten signature/initials.

Handwritten signature/initials.

Handwritten signature/initials.

Handwritten signature/initials.

Handwritten signature/initials.

Handwritten signature/initials.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	L2 to L3			
		The Switch should support IPv6 Routing capable protocols such as OSPFv3 in hardware.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IPv6 Routing capable protocols such as OSPFv3 in hardware.
		The Switch should support IP Multicast and PIM, PIM Sparse Mode, & Source-Specific Multicast for Wired and Wireless Clients.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IP Multicast and PIM, PIM Sparse Mode, & Source-Specific Multicast for Wired and Wireless Clients.
		The Switch should support basic IP Unicast routing protocols (static, RIPv1 & RIPv2).	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support basic IP Unicast routing protocols (static, RIPv1 & RIPv2).
		The Switch should support IPv6 & IPv4 Policy Based Routing (PBR).	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IPv6 & IPv4 Policy Based Routing (PBR).
		The Switch should support Inter-VLAN routing.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support Inter-VLAN routing.
		The Switch should support HSRP for IPv4 & IPv6.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support HSRP for IPv4 & IPv6.
		The Switch should support VRRPv3.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support VRRPv3.
		The Switch should support uRPF for IPv4 and IPv6.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support uRPF for IPv4 and IPv6.
12.8	Native support of following L3 features from day - 1	The Switch should support routing protocols such as OSPF, BSR, IS-ISv4, LISP, VXLAN, VRF.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support routing protocols such as OSPF, BSR, IS-ISv4, LISP, VXLAN, VRF.
		The Switch should support IPv6 Routing capable protocols such as OSPFv3 in hardware.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IPv6 Routing capable protocols such as OSPFv3 in hardware.
		The Switch should support IP Multicast and PIM,	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IP Multicast and PIM, PIM Sparse Mode, & Source-

12/05/22

NA

12/05/22

12/05/22

12/05/22

12/05/22

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		PIM Sparse Mode, & Source-Specific Multicast for Wired and Wireless Clients.		Specific Multicast for Wired and Wireless Clients.
		The Switch should support basic IP Unicast routing protocols (static, RIPv1 & RIPv2).	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support basic IP Unicast routing protocols (static, RIPv1 & RIPv2).
		The Switch should support IPv6 & IPv4 Policy Based Routing (PBR)	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support IPv6 & IPv4 Policy Based Routing (PBR)
		The Switch should support Inter-VLAN routing.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch should support Inter-VLAN routing.
		The Switch should support HSRP for IPv4 & IPv6.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support HSRP for IPv4 & IPv6.
		The Switch should support VRRPv3.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support VRRPv3.
		The Switch should support uRPF for IPv4 and IPv6.	The functionality needs to be verified by the board of officers through Data Sheet.	The Switch must support uRPF for IPv4 and IPv6.
12.9	Certifications	Safety certifications - IEC 60950-1,UL 60950-1,CAN/CSA C22.2 No. 60950-1,EN 60950-1,AS/NZS 60950.1,Class I Equipment.	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must have Safety certifications - IEC 60950-1,UL 60950-1,CAN/CSA C22.2 No. 60950-1,EN 60950-1,AS/NZS 60950.1,Class I Equipment.
		Electromagnetic emissions certifications - 47 CFR Part 15,CISPR 22 Class A,CISPR 32 Class A,CNS 13438,EN 300 386*,EN 55022 Class A,EN 55032 Class A,EN61000-3-2,EN61000-3-3,ICES-003 Class A,KN 32,TCVN 7189 Class A,V-3 Class A,CISPR	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must have Electromagnetic emissions certifications - 47 CFR Part 15,CISPR 22 Class A,CISPR 32 Class A,CNS 13438,EN 300 386*,EN 55022 Class A,EN 55032 Class A,EN61000-3-2,EN61000-3-3,ICES-003 Class A,KN 32,TCVN 7189 Class A,V-3 Class A,CISPR 24,EN 300 386*,EN 55024,KN 35,TCVN 7317.

Sub
06/05/22

4
25/11/25

31/01/22
Nanjayya

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		24,EN 300 386*,EN 55024,KN 35,TCVN 7317		
		Environmental - Reduction of Hazardous Substances (ROHS) 5	The functionality needs to be verified by the board of officers through Data Sheet.	Switch must have Reduction of Hazardous Substances (ROHS) 5.
12.10	Operating Temperature Range	Normal operating temperature and altitudes:	The functionality needs to be verified by the board of officers through Data Sheet.	Temperature of the switch must be as per the requirement mentioned in the QRs.
		-5°C to +45°C, up to 5000 feet (1500m)	The functionality needs to be verified by the board of officers through Data Sheet.	
		-5°C to +40°C, up to 10,000 feet (3000m)	The functionality needs to be verified by the board of officers through Data Sheet.	
		Minimum ambient temperature for cold start is 32°F (0°C)	The functionality needs to be verified by the board of officers through Data Sheet.	
		-5°C to +50°C, up to 5000 feet (1500m)	The functionality needs to be verified by the board of officers through Data Sheet.	
		-5°C to +45°C, up to 10,000 feet (3000m)	The functionality needs to be verified by the board of officers through Data Sheet.	
		-5°C to +45°C, at sea level with single fan failure	The functionality needs to be verified by the board of officers through Data Sheet.	

13. . IP 66 Termination Box for ONU

13.1	IP 66 Cabinet with mounting arrangement	To be checked physically by BOO	Termination box must have IP 66 Cabinet with mounting arrangement.
13.2	CRCA Powder coated rugged metallic enclosure	To be checked physically by BOO	Termination box must have CRCA Powder coated rugged metallic enclosure.
13.3	Size to be customised as per the requirement	To be checked physically by BOO	Termination box must have size to be customised as per the requirement.
13.4	Compact design with air circulation space	To be checked physically by BOO	Termination box must have compact design with air circulation space.
13.5	Inner tray for splice sleeve	To be checked physically by BOO	Termination box must have inner tray for splice sleeve.
13.6	Available with 2 Pcs SC Duplex number of adapters	To be checked physically by BOO	Termination box must have SC duplex as per the

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				requirement mentioned in the QRs.
13.7	Normal splice type		To be checked physically by BOO	Termination box must have normal splice type.
13.8	DIN Rail mounting arrangement		To be checked physically by BOO	Termination box must have DIN rail mounting arrangement.
13.9	08 Nos Cable entry points with PVC gland		To be checked physically by BOO	Termination box must have 08 Nos cable entry points with PVC gland.
13.10	02 MCBs 10/16 AMP for AC mains power connectivity and control		To be checked physically by BOO	Termination box must have 02 MCBs 10/16 AMP for AC mains power connectivity and control.
13.11	Power extension point with 03 Nos 5 AMP power socket with switch and sufficient power cable		To be checked physically by BOO	Termination box must have power extension point with 03 Nos 5 AMP power socket with switch and sufficient power cable
13.12	Provision for earthing connection		To be checked physically by BOO	Termination box must have provision for earthing connection.

14. Trial Directives 19 Inches 9U Network Rack


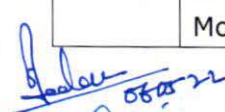

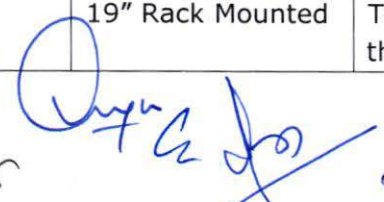

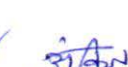
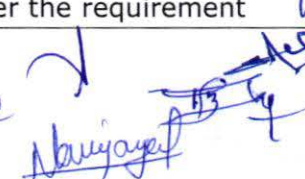


14.1	Rack enclosure 9U wall mount		To be checked physically by BOO	Rack enclosure must be as per the requirement mentioned in the QRs
14.2	EIA standard 19" Rack rails		To be checked physically by BOO	EIA standard must be as per the requirement mentioned in the QRs
14.3	Width : 600 MM (+/- 10 mm)		To be checked physically by BOO	Width must be as per the requirement mentioned in the QRs
14.4	Depth : 550 MM (+/- 10 mm)		To be checked physically by BOO	Depth must be as per the requirement mentioned in the QRs
14.5	Transparent toughened glass front door with lock		To be checked physically by BOO	Transparent toughened must be as per the requirement mentioned in the QRs
14.6	Fan tray with 2 fans for heat dissipation		To be checked physically by BOO	Fan Try must be as per the requirement mentioned in the QRs
14.7	One No. Horizontal power distribution unit with 5 Point AC 6 & 16 AMP socket and MCB		To be checked physically by BOO	Horizontal power distribution must be as per the requirement mentioned in the QRs
14.8	Mounting hardware (20 NOS)		To be checked physically by BOO	Mounting hardware must be as per the requirement mentioned in the QRs
14.9	Horizontal Manager		To be checked physically by BOO	Horizontal Manager must

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				be as per the requirement mentioned in the QRs
14.10	Support cable entry from top or bottom		To be checked physically by BOO	Support cable entry must be as per the requirement mentioned in the QRs
14.11	One Cantilever shelf		To be checked physically by BOO	Cantilever shelf must be as per the requirement mentioned in the QRs
15. . 19 Inches 42U Network Rack				
15.1	Rack enclosure 42U floor standing		To be checked physically by BOO	Rack enclosure must be as per the requirement mentioned in the QRs
15.2	EIA standard 19" rack rails		To be checked physically by BOO	EIA standard must be as per the requirement mentioned in the QRs.
15.3	Width : 800 MM (+/- 10mm)		To be checked physically by BOO	Width must be as per the requirement mentioned in the QRs.
15.4	Depth : 1000 MM (+/- 10mm)		To be checked physically by BOO	Depth must be as per the requirement mentioned in the QRs.
15.5	Transparent toughened glass front door with lock		To be checked physically by BOO	Transparent toughened glass must be as per the requirement mentioned in the QRs.
15.6	Side panels with key locks and slam latch		To be checked physically by BOO	Side panels must be as per the requirement mentioned in the QRs.
15.7	Rear door with lock		To be checked physically by BOO	Rear door must having lock.
15.8	Fan tray with 4 fans for heat dissipation		To be checked physically by BOO	Fan tray must be as per the requirement mentioned in the QRs.
15.9	Shelf for monitor display		To be checked physically by BOO	Rack must have shelf for monitor display.
15.10	Shelf with keyboard tray		To be checked physically by BOO	Rack must have shelf with keyboard tray.
15.11	Two Nos. vertical power distribution unit with 10 point AC 6 & 16 AMP socket and MCB		To be checked physically by BOO	Rack must have Two Nos. vertical power distribution unit with 10 point AC 6 & 16 AMP socket and MCB.
15.12	Earthing strip		To be checked physically by BOO	Rack must have earthing strip.
15.13	Mounting hardwares (50 NOS)		To be checked physically by BOO	Mounting hardware Two Nos. vertical power distribution unit with 10 point AC 6 & 16 AMP socket and MCB
15.14	Support cable for top or bottom		To be checked physically by BOO	Rack must have support cable for top or bottom.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
15.15	Heavy duty castor wheels & break		To be checked physically by BOO	Rack must have heavy duty castor wheels & break.
15.16	Vertical Manager		To be checked physically by BOO	
16. . SFP Module 1G Single Mode LC				
16.1	IEEE Standard	1000 Base LX	Firm has submitted the OEM certificate	IEEE standard must be as per the specification mentioned in the QRs.
16.2	Signalling rate, each lane (range)	1.25 Gbps +/- 100 ppm	The functionality needs to be verified by the BOO through Data Sheet.	Signalling rate must be as per the specification mentioned in the QRs.
16.3	Connector Type	Lucent connector (LC)/ physical connector (PC)	The functionality needs to be verified by the BOO through Data Sheet.	Connector type must be as per the specification mentioned in the QRs.
16.4	Fiber pairs	1	The functionality needs to be verified by the BOO through Data Sheet.	Fiber pairs must be as per the specification mentioned in the QRs.
16.5	Wavelength range	1270 nm to 1355 nm	The functionality needs to be verified by the BOO through Data Sheet.	Wavelength range must be as per the specification mentioned in the QRs.
16.6	Average transmit launch power (minimum)	-9.5 dBm	The functionality needs to be verified by the BOO through Data Sheet.	Average transmit launch power (min) must be as per the specification mentioned in the QRs.
16.7	Average transmit launch power (maximum)	-3 dBm	The functionality needs to be verified by the BOO through Data Sheet.	Average transmit launch power (max) must be as per the specification mentioned in the QRs.
16.8	Average receive power (maximum)	-3 dBm	The functionality needs to be verified by the BOO through Data Sheet.	Average receive power (max) must be as per the specification mentioned in the QRs.
16.9	Receive Sensitivity	-19 dBm (maximum)	The functionality needs to be verified by the BOO through Data Sheet.	Receive Sensitivity must be as per the specification mentioned in the QRs.
16.10	Diagnostic support	Supported	The functionality needs to be verified by the BOO through Data Sheet.	Diagnostic support must be as per the specification mentioned in the QRs.
17. . Network Video Recorder (32) Port				
17.1	Channels	32 Nos Full HD/16 Nos 4K Resolution or better	To be physically checked by the BOO.	Channels must be as per the requirement mentioned in the QRs.
17.2	Camera Type	Should Support 4K Box Camera and Full HD PTZ Cameras	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Type of camera must be as per the requirement mentioned in the QRs.
17.3	Recording Resolution and Frame Rate	Full HD & 4K (3840x2160) @ 25 FPS or higher	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Recording Resolution and frame rate must be as per the requirement mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
17.4	Supported Image Resolution	HD resolution and 4K UHD Resolution	Specification to be verified by the BOO through specification sheet.	Supported image resolution must be as per the requirement mentioned in the QRs.
17.5	Operating System	Embedded Linux/Windows based system	Firm has submitted the OEM certificate.	Operating system must be as per the requirement mentioned in the QRs.
17.6	Video Compression	H.264,H.265 or better supporting the system	Firm has submitted the OEM certificate.	Video compression must be as per the requirement mentioned in the QRs.
17.7	Recording Bandwidth	Minimum 32 Channel full HD @320 Mbps or 16 Nos 4K resolution	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Recording bandwidth must be as per the requirement mentioned in the QRs.
17.8	Video Playback	16 Channels Full HD synchronous play back	Specification to be verified by the BOO through specification sheet.	Video playback must be as per the requirement mentioned in the QRs.
17.9	Storage	Minimum 70 TB Usable after RAID 5/6 configuration (Combination of Internal and external)	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Storage must be as per the requirement mentioned in the QRs.
17.10	Drive Type	SATA Surveillance HDD or better	Specification to be verified by the BOO through specification sheet.	Drive type must be as per the requirement mentioned in the QRs.
17.11	Video In Connections	2x 1G Ethernet and 2x 10G Ethernet/ SFP+ connectivity	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Video in connections must be as per the requirement mentioned in the QRs.
17.12	Discovery Interface	OEM interface to detect the camera automatically and configure network settings	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Discovery interface must be as per the requirement mentioned in the QRs.
17.13	Video Output/ Interface	HDMI/ VGA/ USB	To be checked physically by the BOO.	Video output/interface must be as per the requirement mentioned in the QRs.
17.14	Network Interface	1-Port of Ethernet 10/100/1000 Base T ports	To be checked physically by the BOO.	Network interface must be as per the requirement mentioned in the QRs.
17.15	USB Interface	USB 2.0 x 2, USB 3.0 x 1 or better	To be checked physically by the BOO.	USB interface must be as per the requirement mentioned in the QRs.
17.16	Monitoring	USB Mouse	To be checked physically by	Monitoring must be as per

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		Control, Digital Keyboard Control	the BOO.	the requirement mentioned in the QRs.
17.17	Multi-screen Display	Support (support on local monitor Full screen, Quad view, 4x4 (min16-view) or any other window division based on the site requirement)	The FAT report needs to be submitted & the functionality needs to be verified by the BOO.	Multi-screen display must be as per the requirement mentioned in the QRs.
17.18	Camera Control	Yes	To be checked physically by the BOO.	Camera control must be as per the requirement mentioned in the QRs.
17.19	Recording/Playback Control	Required	To be checked physically by the BOO.	Recording/playback control must be as per the requirement mentioned in the QRs.
17.20	Recording Mode	Manual, Schedule (Continuous/Event), Event (Pre/Post), Motion detection, Alarms, Trigger Input etc.	Specification to be verified by the BOO through specification sheet.	Recording mode must be as per the requirement mentioned in the QRs.
17.21	Fail over Recording	Required	To be checked physically by the BOO.	Fail over recording must be as per the requirement mentioned in the QRs.
17.22	Search and Export	Recording search by Camera, date and time. Export of video clips to USB Flash Drives.	Specification to be verified by the BOO through specification sheet.	Search and export must be as per the requirement mentioned in the QRs.
17.23	System Log	Alarms, Events, Operator Log etc.	Specification to be verified by the BOO through specification sheet.	System log must be as per the requirement mentioned in the QRs.
17.24	User Management	Authentication of User Login, Configuration of Users, User Groups and User Access Rights.	Specification to be verified by the BOO through specification sheet.	User management must be as per the requirement mentioned in the QRs.
17.25	Power Supply	Dual, Redundant	To be checked physically by the BOO.	Power supply must be as per the requirement mentioned in the QRs.
17.26	Chassis Mounting	19" Rack Mounted	To be checked physically by the BOO.	Chassis Mounting must be as per the requirement

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				mentioned in the QRs.
17.27	Regulatory Approvals/Certifications	UL, CE & FCC/BIS	Firm has submitted the OEM certificate.	Regulatory approvals/certifications must be as per the requirement mentioned in the QRs.

Additional Functionality: The NVR should be able to synchronize video from cameras on restoration of Network after failure.

When any failover or network interference happens, the recording should start on the SD Card in the IP Cameras, however when network recovers, the data on SD Card should be automatically transferred to NVR without any impact on operation of NVR. It should be designed to guarantee to record 24 hours of recorded data during Network failure. 50% of SD Card capacity should record at originally configured resolution into the NVR, however after 50% of SD Card storage is filled, it drops frame rate automatically to ensure minimum 24 hours back up. On Resumption of the Network, the Recording should automatically be transferred to the NVR.

The failover should not only be supported between IP camera and NVR, but also between NVR and Failover NVR. Failover NVR is designed to support failover for multiple NVR. For example, there was 10 NVRs Are running with 1 failover NVR, the failover NVR will take its operation if any one of 10 NVR is failed

The NVR should support Two-way Audio function Security: The cameras should be connected through a physically separate subnet mask. Limiting direct access to the cameras and increasing security

18. . SFP Module 2.5 Gbps

18.1	SFP transceiver can be used to connect multiple GPON optical network terminals to GPON OLT. Maximum link span can reach 60km. This transceiver is based on WDM (BiDi) technology thus it is possible to send (TX: 1310nm) and receive (RX: 1490nm) data simultaneously in both directions over single strain of fiber (optical splitters are needed to connect multiple ONTs). Module is compliant with ITU-T G.984.2 Class C+ and SFP MSA standards. Host device can access module internal EEPROM memory and DDMI via I2C interface. DDMI (Digital Diagnostic Monitoring Interface) is fully compliant with DOM.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	The specification must be as per the requirement mentioned in the QRs.
18.2	Supported transmission technology	ITU-T G.984.2	Firm has submitted the OEM certificate.	Supported transmission technology must be as per the requirement mentioned in the QRs.
18.3	Downstream throughput	2488Mbps	Firm has submitted the OEM certificate.	Downstream throughput must be as per the requirement mentioned in the QRs.
18.4	Upstream	1244Mbps	Firm has submitted the OEM	Upstream throughput

[Handwritten signatures and marks at the bottom of the page]

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	throughput		certificate.	must be as per the requirement mentioned in the QRs.
18.5	Transmission medium	Single-mode fibre 9/125µm	Firm has submitted the OEM certificate.	Transmission medium must be as per the requirement mentioned in the QRs.
18.6	Transmission distance	60km	Firm has submitted the OEM certificate.	Transmission distance must be as per the requirement mentioned in the QRs.
18.7	Receptacle type	SC Simplex Wavelength TX: 1490nm / RX:1310nm	Firm has submitted the OEM certificate.	Receptacle type must be as per the requirement mentioned in the QRs.
18.8	Output power/Rx sensitivity	+3~+7dBm Receiver sensitivity -31dBm	Firm has submitted the OEM certificate.	Output power must be as per the requirement mentioned in the QRs.
18.9	Power supply voltage	3.3V	Firm has submitted the OEM certificate.	Power supply voltage must be as per the requirement mentioned in the QRs.
18.10	Total power consumption	< 2W	Firm has submitted the OEM certificate.	Total power consumption must be as per the requirement mentioned in the QRs.
18.11	Operating environment	-20 ⁰ to +85 ⁰	Firm has submitted the OEM certificate.	Operating temperature must be as per the requirement mentioned in the QRs.
18.12	Operating environment	humidity 5~95% non-condensing	Firm has submitted the OEM certificate.	Operating humidity must be as per the requirement mentioned in the QRs.

19. . Industrial GPON ONT/ONU with 1X POE LAN Port

19.1	Plug and Play	Based on automatic discovery and configuration of the ONU "Plug and Play"	To be checked physically by the BOO.	Plug and play must be as per the requirement mentioned in the QRs.
19.2	Link indication	Link Power, PON, LAN, POE+.	The functionality needs to be verified by the BOO through data sheet.	Link must be as per the requirement mentioned in the QRs.
19.3	Forwarding mode	Store and forward/ line rate forwarding	The functionality needs to be verified by the BOO through data sheet.	Forwarding mode must be as per the requirement mentioned in the QRs.
19.4	VLAN	IEEE802.1Q, VLAN tagging (Q-in-Q)	The functionality needs to be verified by the BOO through data sheet.	VLAN must be as per the requirement mentioned in the QRs.
19.5	Multicast	IGMP Snooping	The functionality needs to be	Multicast must be as per

Handwritten signatures and initials are present at the bottom of the page, including "Dharmu" and "Narayanan".

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		V1/V2/V3	verified by the BOO through data sheet.	the requirement mentioned in the QRs.
19.6	Security :	AES encryption	The functionality needs to be verified by the BOO through data sheet.	Security must be as per the requirement mentioned in the QRs.
19.7	Compliant with:	ITU-T G.984.1, G.984.2, G.984.3, G.984.4, G.998	The functionality needs to be verified by the BOO through data sheet.	Must compliant with requirement mentioned in the QRs.
19.8	Certification	ONT/ONU should be BBF.247 Certified, UL, FCC	The functionality needs to be verified by the BOO through data sheet.	Certification must be as per the requirement mentioned in the QRs.
19.9	Quality of Service	Upgradeable dynamic DBA algorithm Rate-limiting on Ethernet and PON interface, 64K~1M bps increments Customized quality of service. IEEE802.1P QoS, scheduling policy TOS, COS, DSCP Priority, traffic	The functionality needs to be verified by the BOO through data sheet.	Quality of service must be as per the requirement mentioned in the QRs.
19.10	COS	Port-based downstream priority queues and strict priority scheduling for traffic CoS differentiation.	The functionality needs to be verified by the BOO through data sheet.	COS must be as per the requirement mentioned in the QRs.
19.11	Operation and maintenance	Standard-compliant OMCI interface as defined by G.984.4 and G.988.	The functionality needs to be verified by the BOO through data sheet.	Operation and maintenance must be as per the requirement mentioned in the QRs.
19.12	PON interface	1 PON interface optical module SC/LC connector Single mode, single-strand 1310nm upload and 1490nm download.	The functionality needs to be verified by the BOO through data sheet.	PON interface must be as per the requirement mentioned in the QRs.
19.13	PON Class	GPON optical uplink with class B+ support	The functionality needs to be verified by the BOO through data sheet.	PON Class must be as per the requirement mentioned in the QRs.
19.14	Transmit	Data TX power 0.5 ... +5 dBm	The functionality needs to be verified by the BOO through data sheet.	Transmit must be as per the requirement mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
19.15	Receive	Data RX power -8 ... -27 dBm.	The functionality needs to be verified by the BOO through data sheet.	Receive must be as per the requirement mentioned in the QRs.
19.16	Ethernet interface	4*10/100/1000 BASE-T POE+ interface with RJ-45 connectors. Ethernet port auto-negotiation or manual configuration with media dependent interface crossover (MDI/MDIX).	The functionality needs to be verified by the BOO through data sheet.	Ethernet interface must be as per the requirement mentioned in the QRs.
19.17	Power supply	External power supply adapter	The functionality needs to be verified by the BOO through data sheet.	Power supply must be as per the requirement mentioned in the QRs.
19.18	Power Consumption	≤ 150W (at max load)	The functionality needs to be verified by the BOO through data sheet.	Power must be as per the requirement mentioned in the QRs.
19.19	Working Temperature	-40°C to 60°C (-40°F to 140°F)	The functionality needs to be verified by the BOO through data sheet.	Working temperature must be as per the requirement mentioned in the QRs.
19.20	Working Humidity	RH:5 ~ 95% non-condensing	The functionality needs to be verified by the BOO through data sheet.	Working humidity must be as per the requirement mentioned in the QRs.
19.21	Working environment	Outdoor wall or pall mounted (IP30).	The functionality needs to be verified by the BOO through data sheet.	Working environment must be as per the requirement mentioned in the QRs.

20. . GPON 8 Port OLT

20.1	OLT Should be 19" ETSI Rack mountable with 4 slot for Line Modules	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	OLT must be 19" ETSI Rack mountable with 4 slot for Line Modules.
20.2	It should have dual DC Power supply.	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	It must have dual DC Power supply.
20.3	It should be fully compliant with ITU GPON standards.	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	df It must be fully compliant with ITU GPON standards.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
20.4	It should have 8 downstream GPON ports expandable to 16 downstream GPON port with addition of PON SFP and with 4 uplink GE optical/electrical/ 10 GE support.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	It must have 8 downstream GPON ports expandable to 16 downstream GPON port with addition of PON SFP and with 4 uplink GE optical/electrical/ 10 GE support.
20.5	It should be using field-proven OMCI stack and OLT management software solution.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	It must be using field-proven OMCI stack and OLT management software solution.
20.6	It should be TR-101 compliant solution for FTT x OLT applications.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	It must be TR-101 compliant solution for FTT x OLT applications.
20.7	It should have high splitter rate with support up to 128 x ONT using C+ PON SFP. It addition GPON pon port should have support of C++ SFP for -34dB Rx sensitivity.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have high splitter rate with support up to 128 x ONT using C+ PON SFP. It addition GPON pon port should have support of C++ SFP for -34dB Rx sensitivity.
20.8	It should support uplink FEC, downlink FEC (Forward Error Correction)		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support uplink FEC, downlink FEC (Forward Error Correction)
20.9	4096 port-IDs PER GPON MAC (downstream and upstream) & 1024 Alloc-IDs per GPON MAC (upstream).		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	The Port must be as per the requirement mentioned in the QRs.
20.10	It should static & Dynamic Bandwidth Allocation.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must static & dynamic bandwidth allocation.
20.11	It should support Port-based QinQ and Selective QinQ (Stack VLAN).		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support Port-based QinQ and selective QinQ (Stack VLAN).
20.12	It should support Port-based/MAC-based/IP subnet-based VLAN.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support Port-based/MAC-based/IP subnet-based VLAN.
20.13	It should support IEEE 802. 1D		The FAT report needs to be	Must support IEEE 802.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	Spanning Tree Protocol (STP)		submitted and the functionality need to be verified by the firm in presence of BOO.	1D spanning Tree Protocol (STP).
20.14	It should support IEEE 802.1w rapid Spanning Tree Protocol (RSTP) IEEE 802. 1s		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support IEEE 802. 1w rapid spanning Tree Protocol (RSTP) IEEE 802.1s.
20.15	It should have multiple spanning tree protocol instances (MSTP) Bi-directional bandwidth control. It should have static link aggregation and LACP (Link Aggregation Control Protocol)		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have multiple spanning tree protocol instances (MSTP) Bi-directional bandwidth control. Must have static link aggregation and LACP (Link Aggregation Control Protocol).
20.16	It should have port mirroring and traffic mirroring		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have port mirroring and traffic mirroring.
20.17	It should have rate-limit to packet sending/receiving speed of port of self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have rate-limit to packet sending/receiving speed of port of self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow.
20.18	It should have priority remark to port or self-defined flow and provide 802. 1P, DSCP priority and remark		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have priority remark to port or self-defined flow and provide 802.1P, DSCP priority and remark.
20.19	It should have CAR (committed Access Rate), Traffic Shaping and flow statistics Packet mirror and redirection of interface and self-defined flow.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have CAR (committed Access Rate), Traffic Shaping and flow statistics Packet mirror and redirection of interface and self-defined flow.
20.20	It should support ERPS(recover-time <200 ms), RSTP/MSTP (recover time <1s) & LACP (recover-time < 200 ms)		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support ERPS(recover-time <200 ms), RSTP/MSTP (recover time <1s) & LACP (recover-time < 200 ms)
20.21	OLT Power consumption should be <= 270w		The FAT report needs to be submitted and the functionality need to be verified by the firm in	OLT Power consumption must be <= 270w.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
			presence of BOO.	
20.22	It should have super queue scheduler based on port and self-defined flow. Each port/flow supports 8 priority queues and scheduler of SP, WRR and SP+ WRR.		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must have super queue scheduler based on port and self-defined flow. Each port/flow supports 8 priority queues and scheduler of SP, WRR and SP+ WRR.
20.23	It should support congestion avoid mechanism including Tail Drop and WRED		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Must support congestion avoid mechanism including Tail Drop and WRED.
20.24	OLT should have switching capacity of 480 Gbps or higher		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	OLT must have switching capacity of 480 Gbps or higher.
20.25	IPv4 ARP Proxy DHCP Relay Static route IPv6		The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Port must be as per the requirement mentioned in the QRs.

21. QRs/Specification of EMS Software for Managing GPON Equipment

21.1	Based on standard SNMP protocol	The functionality needs to be verified by the board of officers.	The SNMP protocol must be as per requirement mentioned in the QRs.
21.2	Support multiple client access, C/S architecture	The functionality needs to be verified by the board of officers.	Client access, C/S architecture must be as per requirement mentioned in the QRs.
21.3	Support integrated management all our EPON/GPON series products	The functionality needs to be verified by the board of officers.	Must support integrated managed all our EPON/GPON series products.
21.4	Support auto topology or modify manually, and multi-layer map view	The functionality needs to be verified by the board of officers.	Must support auto topology or modify manually, and multi-layer map view.
21.5	Support configuration operation on all EPON/GPON products functions	The functionality needs to be verified by the board of officers.	Must support configuration operation on all EPON/GPON products functions
21.6	Support multiple level operation authority	The functionality needs to be verified by the board of officers.	Must support multiple level operation authority.
21.7	Real-time and history alarm record view, search and save	The functionality needs to be verified by the board of officers.	Must have real-time and history alarm record view, search and save.
21.8	Operation history record trace and	The functionality needs to be	Must have operation

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	save		verified by the board of officers.	history record trace and save.
21.9	Use independent database and support data backup and import		The functionality needs to be verified by the board of officers.	Software must use independent database and support data backup and import.
21.10	Support performance monitor and traffic counters statistic		The functionality needs to be verified by the board of officers.	Must support performance monitor and traffic counters statistic.
21.11	The EMS is must be able to run on a Linux/Windows platform.		The functionality needs to be verified by the board of officers.	The specification must be as per the requirement mentioned the QRs.
21.12	The network representation shall be based on a tree like structure as well as in a graphical structure.		The functionality needs to be verified by the board of officers.	The network representation must be based on a tree like structure as well as in a graphical structure.
21.13	Support Map view with Google MAP		The functionality needs to be verified by the board of officers.	Must support map view with Google Map.
21.14	The proposed EMS has the capability to support very large networks in a single instance.		The functionality needs to be verified by the board of officers.	The specification must be as per the requirement mentioned the QRs.
21.15	Hardware or software upgrade of the EMS must not affect end-user services.		The functionality needs to be verified by the board of officers.	The specification must be as per the requirement mentioned the QRs.
21.16	System upgrades must be performed from the operator position without requiring any on-site visit.		The functionality needs to be verified by the board of officers.	The specification must be as per the requirement mentioned the QRs.
21.17	Compatibility between different versions of NE software must be maintained via "plug-in" architecture. Concurrency of different NE software versions must be supported without service degradation.		The functionality needs to be verified by the board of officers.	Compatibility must be as per the requirement mentioned the QRs.
21.18	The EMS should allow for the selection of a default map/list for some operators or group of operators. The default map/list shall be defined by the EMS Administrator.		The functionality needs to be verified by the board of officers.	The EMS must allow for the selection of a default map/list for some operators or group of operators. The default map/list must be defined by the EMS Administrator.
21.19	The EMS shall update automatically and in real time all local and remote Network Management operator maps/lists after a NE is added on the map/list or the NE settings on the map/list are modified (e.g. the		The functionality needs to be verified by the board of officers.	The EMS must update automatically and in real time all local and remote Network Management operator maps/lists after a NE is added on the map/list or the NE settings

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	name, ...)			on the map/list are modified (e.g. the name, ...)
21.20	The EMS must be able to provide a tool to move the NE's amongst the map/list in order to restructure the network.		The functionality needs to be verified by the board of officers.	The specification must be as per the requirement mentioned the QRs.
22. . 08-Port POE Managed Industrial Switch				
22.1	Ethernet	Operating mode: Store and forward, L2 wire-speed/non-blocking switching engine, MAC address: 8K/16 K or better, Jumbo Frame : 9K bytes	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	The Ethernet must be as per requirement mentioned in the QRs.
22.2	Copper RJ45 Ports	Speed: 8 nos of POE+ Ports. Speed of 10/100/1000 Mbps • MDI/MDIX Auto	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Copper RJ45 Ports must be as per requirement mentioned in the QRs.
22.3	SFP (Pluggable) Ports	Port types supported: 4GE SFP Port	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	SFP (Pluggable) Ports must be as per requirement mentioned in the QRs.
22.4	Network Redundancy	Fast failover protection rings: - Support Single & Multiple rings; Ring coupling; Dual-homing, VLAN: 4K, IEEE 802.1Q tag based VLANs, rapid ring protection with self-recovery time in 50 ms or better.	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Network redundancy must be as per requirement mentioned in the QRs.
22.5	IEEE 802.1ad Double Tagging (Qin Q)	Multicast protocols: - IGMP with up to 1000 multicast groups - IGMP snooping and querying, static routing.	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	IEEE 802.1ad Double Tagging (Qin Q) must be as per requirement mentioned in the QRs.

22/05/22

Navjyoti

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
22.6	Chain	Spanning Tree Protocol: IEEE 802.1D STP bridge	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Chain must be as per requirement mentioned in the QRs.
22.7	Traffic management & QoS	Priority: IEEE 802.1p QoS • Number of queues per port: 4 egress • Ingress Policing, Rate-Limit, Egress Queuing/shaping, QoS, Ethernet QoS	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Traffic management & QoS must be as per requirement mentioned in the QRs.
22.8	Security	Port security: - IP and MAC-based access control IEEE 802.1X authentication Network Access Control - RADIUS and TACACS+ AAA (Authentication, Accounting and Authorization) • Storm Control: Multicast/Broadcast/Flooding	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Security must be as per requirement mentioned in the QRs.
22.9	Management	User Management interfaces: - CLI (command line interface), Console - WEB-based Management - SNMP v1, v2c, v3 - Telnet	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Management must be as per requirement mentioned in the QRs.
22.10	Management Security:	RFC 2068: HTTP, SSH - Radius Client for Management • Upgrade & Restore: FTP for Configuration Import/Export, FTP for Firmware Upgrade • Diagnostic: Syslog • MIBs: - RFC 1757 RMON 1,2,3,9; RFC-	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Management Security must be as per requirement mentioned in the QRs.

Handwritten signature and initials in the bottom left corner.

Handwritten signature and initials in the bottom left area.

Handwritten signature and initials in the bottom center area.

Handwritten signature and initials in the bottom right area.

Handwritten signature and initials on the right margin.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		1493 Bridge MIB; RFC 2233 IF MIB • DHCP: Client, Server, Relay, Snooping, Option 82 • NTP/SNTP: Yes • System status: Device info/status; Ethernet port status; PoE status •		
22.11	Power Input	Redundant Input Terminals • Input voltage range: 48-57 VDC	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Power input must be as per requirement mentioned in the QRs.
22.12	Indicators	Ethernet port indication: Link & Speed through LEDs.	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Indicators must be as per requirement mentioned in the QRs.
22.13	Environmental & Compliances	Operating temperature range: -40 to +70°C (Storage temperature range: -40 to +70 °C Humidity (non-condensing): 5 to 95% RH RoHS: RoHS (Pb free) • MTBF: > 25 years	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Environmental & Compliances must be as per requirement mentioned in the QRs.
22.14	Mechanical	Ingress protection: IP30 • Installation option: DIN-Rail mounting	The FAT report needs to be submitted and the functionality need to be verified by the firm in presence of BOO.	Mechanical must be as per requirement mentioned in the QRs.

23. Command Control & Analytical Software

S No.	Specification	Trial procedure suggested by the BOO.	Result expected/desired
1	Requirement :		
	The requirements VMS System shall be as below		
1.1	Management Software		
1.1.1	This shall be a highly scalable enterprise level software solution. It shall offer a complete video surveillance solution that will be scalable to required numbers of	The functionality needs to be verified by the BOO through Data Sheet.	Software must be a highly scalable enterprise level software solution. It must offer a complete video surveillance solution that

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		sensors that can be added on a unit-by-unit basis.		will be scalable to required numbers of sensors that can be added on a unit-by-unit basis.
1.1.2		The Management Software shall be licensed and shall operate on open architecture and shall require no proprietary IT hardware.	The functionality needs to be verified by the BOO through Data Sheet.	The Management Software must be licensed and must operate on open architecture and shall require no proprietary IT hardware.
1.1.3		The Management Software shall allow for video to be streamed on workstation I in Matrix or on a video wall.	The functionality needs to be verified by the BOO through Data Sheet.	The Management Software must allow for video to be streamed on workstation I in Matrix or on a video wall.
1.1.4		The user with administrative rights shall create clients (users) and give access to the software client application based on predefined user access rights.	The functionality needs to be verified by the BOO through Data Sheet.	The user with administrative rights must create clients (users) and give access to the software client application based on predefined user access rights.
1.1.5		The system shall allow the recording, live monitoring, playback of archived video and data simultaneously.	The functionality needs to be verified by the BOO through Data Sheet.	The system must allow the recording, live monitoring, playback of archived video and data simultaneously.
1.1.6		The software shall provide the following:	The functionality needs to be verified by the BOO through Data Sheet.	The software must provide the following
1.1.6.1		Several simultaneous live picture connections of camera in network.	The functionality needs to be verified by the BOO through Data Sheet.	Several simultaneous live picture connections of camera in network.
1.1.6.2		Configuration of monitoring situation (2 Dimensional Multi-Level site maps).	The functionality needs to be verified by the BOO through Data Sheet.	Configuration of monitoring situation (2 Dimensional Multi-Level site maps).
1.1.6.3		Programming of alarm-triggered automatic events in various alarms configuration.	The functionality needs to be verified by the BOO through Data Sheet.	Programming of alarm-triggered automatic events in various alarms configuration.
1.1.6.4		System set up with limited operation options for clearly defined surveillance tasks.	The functionality needs to be verified by the BOO through Data Sheet.	System set up with limited operation options for clearly defined surveillance tasks.
1.1.6.5		Programming of automatic recording events on a network recorder.	The functionality needs to be verified by the BOO through Data Sheet.	Programming of automatic recording events on a network recorder.
1.1.7		The software shall display dual H.264 video streams in real time simultaneously at frame rates	The functionality needs to be verified by the BOO through Data Sheet.	The software must display dual H.264 video streams in real time

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		ranging from 1 fps to 25 fps and resolution ranging Full HD to other HD/SD resolution.		simultaneously at frame rates ranging from 1 fps to 25 fps and resolution ranging Full HD to other HD/SD resolution.
1.1.8	Each camera's bit rate, frame rate and resolution shall be set independently from other cameras in the system, and altering these settings shall not affect the recording and display settings of other cameras.		The functionality needs to be verified by the BOO through Data Sheet.	Each camera's bit rate, frame rate and resolution must be set independently from other cameras in the system, and altering these settings may not affect the recording and display settings of other cameras.
1.1.9	The software shall provide automatic search and discovery of components of video surveillance system on the network, which can be network sensors		The functionality needs to be verified by the BOO through Data Sheet.	The software must provide automatic search and discovery of components of video surveillance system on the network, which can be network sensors
1.1.10	The software shall provide drag & drop functions on the system and also for setup of connection between sensors and monitors connected to one workstation		The functionality needs to be verified by the BOO through Data Sheet.	The software must provide drag & drop functions on the system and also for setup of connection between sensors and monitors connected to one workstation
1.1.11	The software shall allow:		The functionality needs to be verified by the BOO through Data Sheet.	The software must allow:
1.1.11.1	Live display of sensor feed		The functionality needs to be verified by the BOO through Data Sheet.	Live display of sensor feed
1.1.11.2	Live display of sensor sequences.		The functionality needs to be verified by the BOO through Data Sheet.	Live display of sensor sequences.
1.1.11.3	Control and integration of sensors using third party API/SDK integration including EO, Radar, IRIDS,UGS,UAV,PTZ etc		The functionality needs to be verified by the BOO through Data Sheet.	Control and integration of sensors using third party API/SDK integration including EO, Radar, IRIDS,UGS,UAV,PTZ etc
1.1.11.4	Playback of archived video		The functionality needs to be verified by the BOO through Data Sheet.	Playback of archived video
1.1.11.5	Retrieval of archived video.		The functionality needs to be verified by the BOO through Data Sheet.	Retrieval of archived video.
1.1.11.6	Instant Replay of live video.		The functionality needs to be verified by the BOO through Data Sheet.	Instant Replay of live video.
1.1.11.	Use of site maps.		The functionality needs to be	Use of site maps.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
7			verified by the BOO through Data Sheet.	
1.1.11.8	Configuration of system settings.		The functionality needs to be verified by the BOO through Data Sheet.	Configuration of system settings.
1.1.11.9	Configuration and programming of P/T/Z cameras, features like auto tours, presets etc.		The functionality needs to be verified by the BOO through Data Sheet.	Configuration and programming of P/T/Z cameras, features like auto tours, presets etc.
1.1.10	The software shall be able to do video recording on any of the following options - inbuilt hard disks on the server, direct attached storage boxes attached to servers, network attached storage, storage area network.		The functionality needs to be verified by the BOO through Data Sheet.	The software must be able to do video recording on any of the following options - inbuilt hard disks on the server, direct attached storage boxes attached to servers, network attached storage, storage area network.
1.1.11	The software shall be capable of handling sensors and alarm icons on area maps. The area map shall be configurable to pop up upon the receipt of an alarm received from a sensor on the map. This can be on the same or other monitors on the PC.		The functionality needs to be verified by the BOO through Data Sheet.	The software must be capable of handling sensors and alarm icons on area maps. The area map must be configurable to pop up upon the receipt of an alarm received from a sensor on the map. This can be on the same or other monitors on the PC.
1.1.12	The software shall be able to select the required recording based on the time recording was activated, the duration of recording, operator activated recording, event activated recording, scheduled recording.		The functionality needs to be verified by the BOO through Data Sheet.	The software must be able to select the required recording based on the time recording was activated, the duration of recording, operator activated recording, event activated recording, scheduled recording.
1.1.13	The software shall provide a reporting utility for tracking for the following minimum options. Video clips and image snapshots shall be stored with reports for documenting events		The functionality needs to be verified by the BOO through Data Sheet.	The software must provide a reporting utility for tracking for the following minimum options. Video clips and image snapshots shall be stored with reports for documenting events
1.1.13.1	Alarms		The functionality needs to be verified by the BOO through Data Sheet.	Alarms
1.1.13.2	Incidents		The functionality needs to be verified by the BOO through Data Sheet.	Incidents

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
1.1.13.3	Operator logs		The functionality needs to be verified by the BOO through Data Sheet.	Operator logs
1.1.14	The software shall have the facility to export the desired portion of clipping of video from a desired date/time to another desired date/time on DVD/ on any client/ network storage device. Viewing of this recording shall be possible on authorized player which shall be provided by software manufacturer or in media player on computer utilizing a Window environment.		The functionality needs to be verified by the BOO through Data Sheet.	The software must have the facility to export the desired portion of clipping of video from a desired date/time to another desired date/time on DVD/ on any client/ network storage device. Viewing of this recording shall be possible on authorized player which shall be provided by software manufacturer or in media player on computer utilizing a Window environment.
1.1.15	The Video Management servers shall not limit the number of network video recording servers which can be networked together to form video management and recording system		The functionality needs to be verified by the BOO through Data Sheet.	The Video Management servers must not limit the number of network video recording servers which can be networked together to form video management and recording system
1.1.16	The Video Management servers shall maintain a catalogue of settings for all the clients, servers, and IP cameras & IP enabled cameras in the system. If Video Management servers & recording cannot be managed by single server, in such cases, additional server shall be provided.		The functionality needs to be verified by the BOO through Data Sheet.	The Video Management servers must maintain a catalogue of settings for all the clients, servers, and IP cameras & IP enabled cameras in the system. If Video Management servers & recording cannot be managed by single server, in such cases, additional server shall be provided.
1.1.17	The software shall enable the client to dynamically create connections between sensors and clients and view live or recorded video on Monitors.		The functionality needs to be verified by the BOO through Data Sheet.	The software must enable the client to dynamically create connections between sensors and clients and view live or recorded video on Monitors.
1.1.18	The software shall provide the client seamless operation of all sensors and clients available in the system regardless of the actual connection to different		The functionality needs to be verified by the BOO through Data Sheet.	The software must provide the client seamless operation of all sensors and clients available in the system regardless of the

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		Network Video Recording servers.		actual connection to different Network Video Recording servers.
1.1.19		The software shall detect signal loss of sensors and have the capability to alert the systems administrator.	The functionality needs to be verified by the BOO through Data Sheet.	The software must detect signal loss of sensors and have the capability to alert the systems administrator.
1.1.20		The software shall receive all incoming events (motion detection and triggered digital input and relay output) in the system and take appropriate actions based on user-defined event/action relationships.	The functionality needs to be verified by the BOO through Data Sheet.	The software must receive all incoming events (motion detection and triggered digital input and relay output) in the system and take appropriate actions based on user-defined event/action relationships.
1.1.21		The software shall create an audit trail of all events and user activities.	The functionality needs to be verified by the BOO through Data Sheet.	The software must create an audit trail of all events and user activities.
1.1.22		The Management Software shall support the following:-	The functionality needs to be verified by the BOO through Data Sheet.	The Management Software must support the following:-
1.1.23		The Management Software shall provide a full matrix operation of IP video to display monitors.	The functionality needs to be verified by the BOO through Data Sheet.	The Management Software must provide a full matrix operation of IP video to display monitors.
1.1.24		The Management Software shall have the capability of creating sensors sequences with the following functionalities:	The functionality needs to be verified by the BOO through Data Sheet.	The Management Software must have the capability of creating sensors sequences with the following functionalities:
1.1.24.1		Each Sequence shall have capability up to hundreds of sensors.	The functionality needs to be verified by the BOO through Data Sheet.	Each Sequence must have capability up to hundreds of sensors.
1.1.24.2		Each sensors in the sequence shall have its own individual dwell time, from 1 to 60 seconds.	The functionality needs to be verified by the BOO through Data Sheet.	Each sensors in the sequence must have its own individual dwell time, from 1 to 60 seconds.
1.1.24.3		Multiple users shall be able to view the same sensors sequence simultaneously, not necessarily synchronized nor with the other.	The functionality needs to be verified by the BOO through Data Sheet.	Multiple users must be able to view the same sensors sequence simultaneously, not necessarily synchronized nor with the other.
1.1.25		The software shall provide alarm management module.	The functionality needs to be verified by the BOO through Data Sheet.	The software must provide alarm management module.
1.1.25.1		The alarm management shall be able to set any monitor or groups of monitors to automatically	The functionality needs to be verified by the BOO through Data Sheet.	The alarm management must be able to set any monitor or groups of

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		display sensors in response to alarm inputs.		monitors to automatically display sensors in response to alarm inputs.
1.1.25. 2	The alarm management shall be able to reset automatically or manually alarmed video		The functionality needs to be verified by the BOO through Data Sheet.	The alarm management must be able to reset automatically or manually alarmed video
1.1.26	It shall be possible to search for recordings in the software by sensors, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one sensors simultaneously		The functionality needs to be verified by the BOO through Data Sheet.	It must be possible to search for recordings in the software by sensors, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one sensors simultaneously
1.1.27	The software shall support at least 64 video streams concurrently. It shall support at least 4 monitors in one server/ workstation for displaying live video. It shall allow minimum 5 levels of user and alarm prioritization. It shall allow minimum 16 sensors to be replayed simultaneously.		The functionality needs to be verified by the BOO through Data Sheet.	The software must support at least 64 video streams concurrently. It shall support at least 4 monitors in one server/ workstation for displaying live video. It must allow minimum 5 levels of user and alarm prioritization. It must allow minimum 16 sensors to be replayed simultaneously.
1.1.28	The VMS shall be seamlessly integrated with Face recognition Software and have capability to receive the alerts.		The functionality needs to be verified by the BOO through Data Sheet.	The VMS must be seamlessly integrated with Face recognition Software and have capability to receive the alerts.
1.2	Graphic User Interface Client Software Features			
1.2.1	The GUI software shall perform the following applications simultaneously without interfering with any of the storage server operations (recording, alarms, etc.):		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must perform the following applications simultaneously without interfering with any of the storage server operations (recording, alarms, etc.):
1.2.1.1	Live display of sensors		The functionality needs to be verified by the BOO through Data Sheet.	Live display of sensors
1.2.1.2	Live display of sensors sequences.		The functionality needs to be verified by the BOO through Data Sheet.	Live display of sensors sequences.
1.2.1.3	Control of PTZ cameras / sensors		The functionality needs to be verified by the BOO through	Control of PTZ cameras / sensors

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
			Data Sheet.	
1.2.1.4	Playback of archived video.		The functionality needs to be verified by the BOO through Data Sheet.	Playback of archived video.
1.2.1.5	Retrieval of archived video		The functionality needs to be verified by the BOO through Data Sheet.	Retrieval of archived video
1.2.1.6	Instant replay of live video.		The functionality needs to be verified by the BOO through Data Sheet.	Instant replay of live video.
1.2.1.7	Use of graphical controls (maps) and alarm management.		The functionality needs to be verified by the BOO through Data Sheet.	Use of graphical controls (maps) and alarm management.
1.2.1.8	Configuration of system settings.		The functionality needs to be verified by the BOO through Data Sheet.	Configuration of system settings.
1.2.2	The GUI software shall support any form of IP network connectivity including LAN, WAN and wireless LAN technologies.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must support any form of IP network connectivity including LAN, WAN and wireless LAN technologies.
1.2.3	The GUI software shall support multicast and unicast video streaming.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must support multicast and unicast video streaming.
1.2.4	The GUI software shall provide an authentication mechanism, which verifies the validity of the user.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must provide an authentication mechanism, which verifies the validity of the user.
1.2.5	The GUI software shall allow for live monitoring of video.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must allow for live monitoring of video.
1.2.6	It shall enable view of 1 to minimum 16 video tiles simultaneously on a single digital monitor at 25 fps per camera		The functionality needs to be verified by the BOO through Data Sheet.	It must enable view of 1 to minimum 16 video tiles simultaneously on a single digital monitor at 25 fps per camera
1.2.7	The software shall provide on each of the digital monitors independently the following tile views		The functionality needs to be verified by the BOO through Data Sheet.	The software must provide on each of the digital monitors independently the following tile views
1.2.7.1	Full screen		The functionality needs to be verified by the BOO through Data Sheet.	Full screen
1.2.7.2	Quad view		The functionality needs to be verified by the BOO through Data Sheet.	Quad view
1.2.7.3	4x4 (16-view)		The functionality needs to be verified by the BOO through Data Sheet.	4x4 (16-view)
1.2.7.4	The Software shall also support		The functionality needs to be	The Software must also

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		any other window division based on the site requirement	verified by the BOO through Data Sheet.	support any other window division based on the site requirement
1.2.7.5	The GUI software shall allow operators to view an instant replay of any Camera.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must allow operators to view an instant replay of any Camera.
1.2.7.6	The operator shall be able to define the amount of time he wishes to go back from a timeline bar or through a custom setup period.		The functionality needs to be verified by the BOO through Data Sheet.	The operator must be able to define the amount of time he wishes to go back from a timeline bar or through a custom setup period.
1.2.8	The operator shall be able to control the playback with play, pause, forward, and speed buttons.		The functionality needs to be verified by the BOO through Data Sheet.	The operator must be able to control the playback with play, pause, forward, and speed buttons.
1.2.9	The operator shall be able to choose and trigger following minimum action from a macro/site map:		The functionality needs to be verified by the BOO through Data Sheet.	The operator must be able to choose and trigger following minimum action from a macro/site map:
1.2.9.1	View Camera/sensors in a video tile.		The functionality needs to be verified by the BOO through Data Sheet.	View Camera/sensors in a video tile.
1.2.9.2	View map or procedure in a video tile.		The functionality needs to be verified by the BOO through Data Sheet.	View map or procedure in a video tile.
1.2.9.3	Starting/stopping PTZ pattern.		The functionality needs to be verified by the BOO through Data Sheet.	Starting/stopping PTZ pattern.
1.2.9.4	Go to PTZ preset.		The functionality needs to be verified by the BOO through Data Sheet.	Go to PTZ preset.
1.2.10	The GUI software shall provide management and control over the system using a standard PC mouse, keyboard and Digital keyboard.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must provide management and control over the system using a standard PC mouse, keyboard and Digital keyboard.
1.2.11	The GUI software shall display all sensors attached to the system regardless of their physical location on the network.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must display all sensors attached to the system regardless of their physical location on the network.
1.2.12	The GUI software shall display all sensors sequences created in the system.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must display all sensors sequences created in the system.
1.2.13	The GUI software shall allow operators to control (pause/play,		The functionality needs to be verified by the BOO through	The GUI software must allow operators to control

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		skip forwards, skip backwards) camera sequences.	Data Sheet.	(pause/play, skip forwards, skip backwards) camera sequences.
1.2.14	The GUI software shall display all sensors, sequences and users in a logical tree		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must display all sensors, sequences and users in a logical tree
1.2.15	The GUI software operator shall be able to drag and drop a camera from a tree of available cameras into any video tile for live viewing.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software operator must be able to drag and drop a camera from a tree of available cameras into any video tile for live viewing.
1.2.16	The GUI software operator shall be able to view the sensors from a tree of available cameras into any video tile for live viewing.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software operator must be able to view the sensors from a tree of available cameras into any video tile for live viewing.
1.2.17	The GUI software shall support graphical site representation (map) functionality, where digital maps are used to represent the physical location of cameras and other devices throughout facility.		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must support graphical site representation (map) functionality, where digital maps are used to represent the physical location of cameras and other devices throughout facility.
1.2.18	The maps shall have the ability to contain hyperlinks to create a hierarchy of interlinked maps.		The functionality needs to be verified by the BOO through Data Sheet.	The maps must have the ability to contain hyperlinks to create a hierarchy of interlinked maps.
1.2.19	The GUI software operator shall be able to view the sensors from a map into a video tile for live viewing in the same browser without opening a new browser		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software operator must be able to view the sensors from a map into a video tile for live viewing in the same browser without opening a new browser
1.2.20	The operator shall be able to click on an icon in a map to initiate PTZ camera preset, run PTZ pattern, view camera in an analog monitor or send an 1/0 stream		The functionality needs to be verified by the BOO through Data Sheet.	The operator must be able to click on an icon in a map to initiate PTZ camera preset, run PTZ pattern, view camera in an analog monitor or send an 1/0 stream
1.2.21	The GUI software shall support digital zoom on a fixed camera's live video streams		The functionality needs to be verified by the BOO through Data Sheet.	The GUI software must support digital zoom on a fixed camera's live video streams
1.2.22	The GUI software shall support		The functionality needs to be	The GUI software must

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	digital zoom on a PTZ camera's live video streams.		verified by the BOO through Data Sheet.	support digital zoom on a PTZ camera's live video streams.
1.2.23	The operator shall be able to control Pan, Tilt and Zoom patterns of P/T/Z Camera		The functionality needs to be verified by the BOO through Data Sheet.	The operator must be able to control Pan, Tilt and Zoom patterns of P/T/Z Camera
1.2.24	The software shall be able to display video of cameras on 55 inch Large Format Display Monitors and Workstation Monitors.		The functionality needs to be verified by the BOO through Data Sheet.	The software must be able to display video of cameras on 55 inch Large Format Display Monitors and Workstation Monitors.
1.2.25	The software shall allow the control of display from the client PC.		The functionality needs to be verified by the BOO through Data Sheet.	The software must allow the control of display from the client PC.
1.2.26	The operator from the GUI software shall be able to decide the screen layout and also the cameras that shall be displayed on the monitors.		The functionality needs to be verified by the BOO through Data Sheet.	The operator from the GUI software must be able to decide the screen layout and also the cameras that shall be displayed on the monitors.
1.2.27	The software shall support multicasting.		The functionality needs to be verified by the BOO through Data Sheet.	The software must support multicasting.
1.2.28	It shall be possible to switch the screen layout in response to an alarm.		The functionality needs to be verified by the BOO through Data Sheet.	It must be possible to switch the screen layout in response to an alarm.
1.2.29	The GUI Software shall support text superimposing the title and date & time on the video		The functionality needs to be verified by the BOO through Data Sheet.	The GUI Software must support text superimposing the title and date & time on the video
1.3	Video Recording Software			
1.3.1	Software shall support recording of H.264/H.265 video streams. It shall support recording of video and audio for all the channels.		The functionality needs to be verified by the BOO through Data Sheet.	Software must support recording of H.264/H.265 video streams. It must support recording of video and audio for all the channels.
1.3.2	Software shall support triplex applications, recording, re-play and backup simultaneously. It shall be compatible with windows Server OS or Linux for highest performance and reliability.		The functionality needs to be verified by the BOO through Data Sheet.	Software must support triplex applications, recording, re-play and backup simultaneously. It must be compatible with windows Server OS or Linux for highest performance and reliability.
1.3.3	The software shall support absolute recording redundancy with X to N, N to X and N to N		The functionality needs to be verified by the BOO through Data Sheet.	The software must support absolute recording redundancy with X to N, N

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		redundancy configurations for recording servers. This feature shall be provided, if specified by purchaser.		to X and N to N redundancy configurations for recording servers. This feature must be provided, if specified by purchaser.
1.3.4		Software shall operate on open architecture and shall not require any proprietary hardware.	The functionality needs to be verified by the BOO through Data Sheet.	Software must operate on open architecture and must not require any proprietary hardware.
1.3.5		Software shall be able to record minimum 64 different video streams or more simultaneously. It shall be accessible from any client PC connected to the network.	The functionality needs to be verified by the BOO through Data Sheet.	Software must be able to record minimum 64 different video streams or more simultaneously. It must be accessible from any client PC connected to the network.
1.3.6		Software shall provide network time server function to ensure the synchronization of the video servers and the recordings	The functionality needs to be verified by the BOO through Data Sheet.	Software must provide network time server function to ensure the synchronization of the video servers and the recordings
1.3.7		The servers shall be connected to the network so that these can be placed at any location, which has network access. The software shall be able to receive alarms of different types from equipment to start a recording. These alarms can be motion detection, video loss, and unified picture and trigger input.	The functionality needs to be verified by the BOO through Data Sheet.	The servers must be connected to the network so that these can be placed at any location, which has network access. The software must be able to receive alarms of different types from equipment to start a recording. These alarms can be motion detection, video loss, unified picture and trigger input.
1.3.8		The software alarm recording shall support pre-and post-alarm periods. Both can be configured in duration.	The functionality needs to be verified by the BOO through Data Sheet.	The software alarm recording must support pre-and post-alarm periods. Both can be configured in duration.
1.3.9		The software shall provide a status of the available recording capacity.	The functionality needs to be verified by the BOO through Data Sheet.	The software must provide a status of the available recording capacity.
1.3.10	Fault Tolerant Recording:			
1.3.11		If software & server(s) operation are interrupted, like power disconnection and once the server(s) are restarted, these shall automatically resume recording of any cameras these were recording prior to the	The functionality needs to be verified by the BOO through Data Sheet.	If software & server(s) operation are interrupted, like power disconnection and once the server(s) are restarted, these shall automatically resume recording of any cameras

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the right and several smaller ones on the left and center.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		interruption.		these were recording prior to the interruption.
1.3.12		The software shall support network fault-tolerant recording such that if the network connection between a video management server and video recording server becomes unavailable, for example through cable breakage, network congestion or WLAN interruption, the system operation shall automatically recover when the connection is restored.	The functionality needs to be verified by the BOO through Data Sheet.	The software must support network fault-tolerant recording such that if the network connection between a video management server and video recording server becomes unavailable, for example through cable breakage, network congestion or WLAN interruption, the system operation shall automatically recover when the connection is restored.
1.4	Search & Export			
1.4.1		It shall be possible to search for recordings in the software by camera, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one camera simultaneously.	The functionality needs to be verified by the BOO through Data Sheet.	It must be possible to search for recordings in the software by camera, date and time. If a data and time is specified, playback shall commence from that date and time. It must be possible to playback more than one camera simultaneously.
1.4.2		The software shall be able to export sections of recordings to a separate Windows folder, which can then be written to CD-ROM, DVD-ROM or USB Flash Drives etc. to be played back at a location not connected to the network video management & recording network. The export process shall make available a player application, which can be provided with the exported video. Export shall be possible in Windows media player or any other media player compatible format. Simultaneous export of multiple cameras shall also be possible.	The functionality needs to be verified by the BOO through Data Sheet.	The software must be able to export sections of recordings to a separate Windows folder, which can then be written to CD-ROM, DVD-ROM or USB Flash Drives etc. to be played back at a location not connected to the network video management & recording network. The export process must make available a player application, which can be provided with the exported video. Export shall be possible in Windows media player or any other media player compatible format. Simultaneous export of

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				multiple cameras shall also be possible.
1.4.3	The VMS should be able to integrate with IRIDISS and raise an alarm. It should support intelligent logics for entry-exit, entry-exitentry. It should also be able to detect multiple entry, false entry, division of intruders etc	The functionality needs to be verified by the BOO through Data Sheet.		The VMS must be able to integrate with IRIDIS and raise an alarm. It must support intelligent logics for entry-exit, entry-exitentry. It must also be able to detect multiple entry, false entry, division of intruders etc
1.4.4	VMS Should be able to integrate to unmanned ground sensors. This should be depicted on the live map with highlighting of zone of intrusion	The functionality needs to be verified by the BOO through Data Sheet.		VMS must be able to integrate to unmanned ground sensors. This must be depicted on the live map with highlighting of zone of intrusion
1.4.5	The VMS should be able to integrate with exiting surveillance equipment. It should be able to highlight any movement of humans and vehicles under no light conditions and pop up alerts on the alert screen.	The functionality needs to be verified by the BOO through Data Sheet.		The VMS must be able to integrate with exiting surveillance equipment. It should be able to highlight any movement of humans and vehicles under no light conditions and pop up alerts on the alert screen
1.4.6	The Command Control Software should be integrated to GIS Maps to support position of cameras with Lat/Long. In addition should be DMR ready to integrate the Police DMR sets for live display of location of policemen in the venue.	The functionality needs to be verified by the BOO through Data Sheet.		The Command Control Software must be integrated to GIS Maps to support position of cameras with Lat/Long. In addition must be DMR ready to integrate the Police DMR sets for live display of location of policemen in the venue.
1.4.7	Additional Feature			
1.4.7.1	The software should have an integrated Video Analytics to support following Features: i. Tripwire/Zone marking ii. Person moving in/out of an Area III. Un attended object Detection iv. Facial Recognition v. Person counting / Loitering /Tracking	The functionality needs to be verified by the BOO through Data Sheet.		The software must have an integrated Video Analytics to support following Features: i. Tripwire/Zone marking ii. Person moving in/out of an Area III. Un attended object Detection iv. Facial Recognition

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				v. Person counting / Loitering /Tracking
1.4.7.2	The VMS Software, Video Analytics should be a seamless integrated single software Platform.		The functionality needs to be verified by the BOO through Data Sheet.	The VMS Software, Video Analytics must be a seamless integrated single software Platform.
1.4.7.3	Software should be flexible, dynamic, distributed, reactive, real-time, scalable, expandable, redeploy able and shall have following characteristics:- i. Should be deployed on an IP based non-proprietary networks. ii. Leveraging existing infrastructure. iii. Automated policies, workflows and response plan. iv. Control monitor and maintain disparate networks v. Provide a single customized dash board interface which promotes situational awareness with control and monitoring vi. A place where different technology come together to create an efficient and operational requirements.		The functionality needs to be verified by the BOO through Data Sheet.	Software should be flexible, dynamic, distributed, reactive, real-time, scalable, expandable, redeploy able and shall have following characteristics:- i. Should be deployed on an IP based non-proprietary networks. ii. Leveraging existing infrastructure. iii. Automated policies, workflows and response plan. iv. Control monitor and maintain disparate networks v. Provide a single customized dash board interface which promotes situational awareness with control and monitoring vi. A place where different technology come together to create an efficient and operational requirements.
1.4.7.4	Surveillance Integration Application: - Real time display of surveillance feeds to the C&C Centre for OPS assessment by commanders. Software should cater for real time monitoring of surveillance sensors, display of surveillance feeds, archiving surveillance feeds, analysis of surveillance feeds and retrieval of feeds at any given time. Software should support display of feed in rugged Laptops/PDA allowing visualization of location surveillance video on map.		The functionality needs to be verified by the BOO through Data Sheet.	Surveillance Integration Application: - Real time display of surveillance feeds to the C&C Centre for OPS assessment by commanders. Software should cater for real time monitoring of surveillance sensors, display of surveillance feeds, archiving surveillance feeds, analysis of surveillance feeds and retrieval of feeds at any

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
		<p>ii.Video Management Software (VMS) Module :- VMS shall offer centralized management of all devices, servers and users. VMS should manage, store, deliver and support encoding, distributing, managing and achieving. Video feed should allow recipients of the video to brings and play back the expected video without installing separate software on their computer. VMS should provide support for multi casting of video feeds to client work station in order to conserve network resource.</p> <p>iii.GIS Module:- Software should have inbuilt integrated GIS module which shall give a multilayer visualization of area of interest with comprehensive view of deployment of sensors and surveillance devices.</p> <p>iv.Event Handling Module:- System should be capable of handling various events with a time line view, integration with video/surveillance feed. Event handler shall be capable to provide detailed overview of incident to various concurrent users at a time.</p> <p>v.Data Visualizations Module :- System should have functionality of simultaneously display on at least three screen included GIS, VMS and event logging screen.</p>		<p>given time. Software should support display of feed in rugged Laptops/PDA allowing visualization of location surveillance video on map.</p> <p>ii. Video Management Software (VMS) Module:- VMS shall offer centralized management of all devices, servers and users. VMS should manage, store, deliver and support encoding, distributing, managing and achieving. Video feed should allow recipients of the video to brings and play back the expected video without installing separate software on their computer. VMS should provide support for multi casting of video feeds to client work station in order to conserve network resource.</p> <p>iii.GIS Module :- Software should have inbuilt integrated GIS module which shall give a multilayer visualization of area of interest with comprehensive view of deployment of sensors and surveillance devices.</p> <p>iv.Event Handling Module :- System should be capable of handling various events with a time line view, integration with video/surveillance feed. Event handler shall be capable to provide detailed overview of incident to various concurrent users at a time.</p> <p>v.Data Visualization Module :- System should have functionality of</p>

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				simultaneously display on at least three screen included GIS, VMS and event logging screen.
1.4.7.5	The software should have capability to incorporate the full open API/SDK of platform of any third party system and interface without keeping much dependency on OEM & vendor . It should interface various devices deployed seamlessly. User should be able to save data in GIS format with date and time stamping.		The functionality needs to be verified by the BOO through Data Sheet.	The software must have capability to incorporate the full open API/SDK of platform of any third party system and interface without keeping much dependency on OEM & VENDOR . It must interface various devices deployed seamlessly. User must be able to save data in GIS format with date and time stamping.
1.4.7.6	The system should be capable of interfacing with wireless (UHF\VHF) based IP communication network like DMR, Tetra etc.		The functionality needs to be verified by the BOO through Data Sheet.	The system must be capable of interfacing with wireless (UHF\VHF) based IP communication network like DMR, Tetra etc.
1.4.7.7	The software shall have feature and compatibility to use Artificial Intelligence (AI)			The software must have feature and compatibility to use Artificial Intelligence (AI).

24. . Monitor 55" (Industrial grade) with wall mount

24.1	Native resolution (pixels)	1920X1080 (full HD) or better	Specification to be verified by the BOO through specification sheet.	Native resolution (pixels) must be as per the requirements mentioned in the QRs.
24.2	Screen type	Non touch	To be checked physically by BOO.	Screen type must be as per the requirements mentioned in the QRs.
24.3	Screen size (diagonal) minimum (cm)	138 or better	To be checked physically by BOO.	Screen size (diagonal) minimum (cm) must be as per the requirements mentioned in the QRs.
24.4	Aspect ratio	16:9	Specification to be verified by the BOO through specification sheet.	Aspect ratio must be as per the requirements mentioned in the QRs.
24.5	Duty cycle	24 x 7	Specification to be verified by the BOO through specification sheet.	Duty cycle must be as per the requirements mentioned in the QRs.
24.6	Technology	LED Backlit	Specification to be verified by the BOO through specification sheet.	Technology must be as per the requirements mentioned in the QRs.
24.7	Brightness (Nits) Minimum	500 or better	Specification to be verified by the BOO through specification sheet.	Brightness (Nits) minimum must be as per the requirements mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
24.8	On site OEM Warranty (Year)	05 years	Firm has to submit OEM certificate.	On site OEM warranty (year) must be as per the requirements mentioned in the QRs.
24.9	Panel technology	LED	Specification to be verified by the BOO through specification sheet.	Panel technology must be as per the requirements mentioned in the QRs.
24.10	Orientation	Portrait	Specification to be verified by the BOO through specification sheet.	Orientation must be as per the requirements mentioned in the QRs.
24.11	Arrangement of Speakers	Inbuilt	To be checked physically by BOO.	Arrangement of speakers must be as per the requirements mentioned in the QRs.
24.12	Bezel width (mm)	Less than 20 mm	To be checked physically by BOO.	Bezel width (mm) must be as per the requirements mentioned in the QRs.

25. . 3C x 06 & 12 Sq mm CU ARM XLPE Insulated Cable

25.1	Conductor Dia	06 Square mm or 12 square mm (To be decided by the user department at the time of indent)	To be checked physically by BOO.	Conductor dia must be as per requirements mentioned in the QRs.
25.2	Armour	Single layer of Galvanized Steel Round Wire according to IS-3975	Specification to be verified by the BOO through specification sheet.	Armour must be as per requirements mentioned in the QRs.
25.3	Packaging	Steel drum packaging, each having single length cable	To be checked physically by BOO.	Packaging must be as per requirements mentioned in the QRs.
25.4	Cable Type	A2XWY/ 2XWY	Specification to be verified by the BOO through specification sheet.	Cable type must be as per requirements mentioned in the QRs.
25.5	No. of Cores	3	Specification to be verified by the BOO through specification sheet.	Cores of the cable must be 03.
25.6	Voltage Level	1.1kV	To be checked physically by BOO.	Voltage level must be as per requirements mentioned in the QRs.
25.7	System Grounding	Solidly Grounded	Specification to be verified by the BOO through specification sheet.	System grounding must be as per requirements mentioned in the QRs.
25.8	Nominal System voltage	400V $\pm 10\%$	Specification to be verified by the BOO through specification sheet.	Nominal system voltage must be as per requirements mentioned in the QRs.
25.9	Nominal	50Hz $\pm 3\%$	Specification to be verified by	Nominal system frequency

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	System Frequency		the BOO through specification sheet.	must be as per requirements mentioned in the QRs.
25.10	Temperature	1)Maximum conductor temp at rated current : 90° C ii) Maximum conductor temp at Short-circuit :250° C	Firm has to submit the OEM certificate.	Temperature must be as per requirements mentioned in the QRs.
25.11	Conductor Material	Electrolytic grade Copper, Purity > 99.97%	Firm has to submit the OEM certificate.	Conductor material must be as per requirements mentioned in the QRs.
25.12	Conductor type	Stranded with number of strands as per IS 8130 (Part-I) 1984	Firm has to submit the OEM certificate.	Conductor type must be as per requirements mentioned in the QRs.
25.13	Insulating material	Cross-Linked-Polyethylene (XLPE) Compound	Firm has to submit the OEM certificate.	Insulating material must be as per requirements mentioned in the QRs.
25.14	Core Identification Strips	Red, Black & Blue/ Green (for neutral)	Firm has to submit the OEM certificate.	Core identification must be as per requirements mentioned in the QRs.
25.15	Material of Inner Sheath	FRLS, PVC ST-2 Compound according to IS-5831	To be checked physically by BOO.	Material of inner sheath must be as per requirements mentioned in the QRs.
25.16	Outer Sheath	FRLS, PVC ST-2 Compound according to IS-5831	To be checked physically by BOO.	Outer sheath must be as per requirements mentioned in the QRs.

26. . Rack Server (2CPU)

26.1	Form Factor	Rack	To be checked physically by BOO.	Form factor must be as per the requirement mentioned in the QRs.
26.2	Processor Make	Intel	Specification to be verified by BOO through specification sheet.	Processor make must be as per the requirement mentioned in the QRs.
26.3	Maximum number of sockets available on Chipset	2	Specification to be verified by BOO through specification sheet.	Sockets available on chipset must be as per the requirement mentioned in the QRs.
26.4	Maximum number of sockets populated with processor	2	Specification to be verified by BOO through specification sheet.	Sockets populated with processor must be as per the requirement mentioned in the QRs.
26.5	Number of	24 core	Specification to be verified by	Core per processor must

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	core per processor		BOO through specification sheet.	be as per the requirement mentioned in the QRs.
26.6	Processor Configuration	Intel Xeon Gold (2.10 GHz, 24 Cores, 36 MB/150 watt or better	Specification to be verified by BOO through specification sheet.	Processor configuration must be as per the requirement mentioned in the QRs.
26.7	RAM size (GB)	512 GB or better	Specification to be verified by BOO through specification sheet.	RAM size (GB) must be as per the requirement mentioned in the QRs.
26.8	RAM upgraded upto (GB)	1 TB or Higher	Specification to be verified by BOO through specification sheet.	RAM upgraded upto (GB) must be as per the requirement mentioned in the QRs.
26.9	Type of Hard Disk Drive	SSD / SAS In 20:80 ratio	Specification to be verified by BOO through specification sheet.	Type Hard Disk Drive must be as per the requirement mentioned in the QRs.
26.10	Hard disk drive capacity (GB)	5000 GB or above (both SSD & SAS Mixed in 20:80 Ratio)	Specification to be verified by BOO through specification sheet.	Hard disk drive capacity (GB) must be as per the requirement mentioned in the QRs.
26.11	On site OEM warranty	5 Years	Specification to be verified by BOO through specification sheet.	On site OEM warranty must be as per the requirement mentioned in the QRs.
26.12	Size	SMART RACK	Specification to be verified by BOO through specification sheet.	Size must be as per the requirement mentioned in the QRs.
26.13	Availability of Co-processor	As requirement by the user.	Specification to be verified by BOO through specification sheet.	Co-processor must be available.
26.14	Network card supported	1G (2 Nos) and 10G (2 Nos), SFP+ (Two or more)	Specification to be verified by BOO through specification sheet.	Network card supported must be as per the requirement mentioned in the QRs.
26.15	RAID Type	RAID 5/6	Specification to be verified by BOO through specification sheet.	RAID type must be as per the requirement mentioned in the QRs.
26.16	USB Port (version 2.0/3.0)	As Per OEM	Specification to be verified by BOO through specification sheet.	USB Port must be as per the requirement mentioned in the QRs.
26.17	FC HBA Dual port card	Yes	Specification to be verified by BOO through specification sheet.	FC HBA dual port card must be as per the requirement mentioned in the QRs.
26.18	FC HBA Dual port card speed	16 Gbps	Specification to be verified by BOO through specification sheet.	FC HBA dual port card speed must be as per the requirement mentioned in the QRs.

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				the QRs.
26.19	PCI Slot (express Gen 3.0)	8	Specification to be verified by BOO through specification sheet.	PCI slot (express Gen 3.0) must be as per the requirement mentioned in the QRs.
26.20	DIMM SLOTS (Nos)	24	Specification to be verified by BOO through specification sheet.	DIMM slots (Nos) must be as per the requirement mentioned in the QRs.
26.21	Hard Disk (RPM)	7200 RPM or higher	Specification to be verified by BOO through specification sheet.	Hard Disk (RPM) must be as per the requirement mentioned in the QRs.
26.22	Total Nos of Port	6 (2 Nos of 1G, 2 Nos of 10 G and 02 Nos SFP)	Specification to be verified by BOO through specification sheet.	Ports must be as per the requirement mentioned in the QRs.
26.23	Redundant Power supply	Yes	Specification to be verified by BOO through specification sheet.	Redundant Power supply must be as per the requirement mentioned in the QRs.
26.24	Redundant Fan	Yes	Specification to be verified by BOO through specification sheet.	Redundant Fan must be as per the requirement mentioned in the QRs.

27.. Computer (Work Station)

27.1	Processor Make	Intel	To be checked physically by BOO.	The processor must be of Intel.
27.2	Processor configuration	Intel Xeon W-1350, 6 core, 12 MB cache, 4 GHz or better version	To be checked physically by BOO.	The processor configuration must be as per the requirement mentioned in the QRs.
27.3	Type of graphics	Discrete	To be checked physically by BOO.	The type of graphics must be as per the requirement mentioned in the QRs.
27.4	Graphic Card	Nvidia Quadro 2200 or RTX4000 Graphics with 8GB	To be checked physically by BOO.	The graphic card must be as per the requirement mentioned in the QRs.
27.5	RAM	DDR4 Or higher	To be checked physically by BOO.	The RAM must be as per the requirement mentioned in the QRs.
27.6	RAM SIZE (GB)	32GB or higher	To be checked physically by BOO.	The RAM Size (GB) must be as per the requirement mentioned in the QRs.
27.7	RAM expandability (GB)	64 GB or higher	To be checked physically by BOO.	The RAM expandability must be as per the requirement mentioned in the QRs.
27.8	Type of Hard Drive-I	SATA/SSD	To be checked physically by BOO.	The type of Hard Drive-I must be as per the

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
				requirement mentioned in the QRs.
27.9	Nos of hard drives-I	As per requirement.	To be checked physically by BOO.	Number of hard drives-I must be 1 or more
27.10	Size of hard disk drive-I (GB)	1 TB or Better	To be checked physically by BOO.	Size of hard disk drive-I must be as per the requirement mentioned in the QRs.
27.11	Display Types	Non-Touch	To be checked physically by BOO.	The display types must be as per the requirement mentioned in the QRs.
27.12	Display Size (cm)	60.45cm or more	To be checked physically by BOO.	The display size must be as per the requirement mentioned in the QRs.
27.13	Display resolution	2560 x 1440 or higher	To be checked physically by BOO.	The display resolution must be as per the requirement mentioned in the QRs.
27.14	Type of Hard Drive-II	SATA	To be checked physically by BOO.	The type of hard drive-II must be as per the requirement mentioned in the QRs.
27.15	Nos of hard drives-II	1 or more	To be checked physically by BOO.	The Nos of hard drives-II must be as per the requirement mentioned in the QRs.
27.16	Size of hard disk drive-II (GB)	1 TB 7200 rpm SATA	To be checked physically by BOO.	Size of hard disk drive-II must be as per the requirement mentioned in the QRs.
27.17	Form Factor	Desktop	To be checked physically by BOO.	The form factor must be as per the requirement mentioned in the QRs.
27.18	No. of Processor	01	To be checked physically by BOO.	As per requirement.
27.19	Display (Antiglare, LED-backlit)	Monitor	To be checked physically by BOO.	The display (Antiglare, LED-backlit) must be as per the requirement mentioned in the QRs.
27.20	On site OEM warranty	05 years Warranty	To be checked physically by BOO.	On site OEM warranty must be as per the requirement.
27.21	Processor Generation	11th or higher version	To be checked physically by BOO.	Processor must be of 9 th generation
27.22	Networking Interface	Integrated bit N 10/100/1000	To be checked physically by BOO.	Networking interface must be as per the requirement mentioned in the QRs.
27.23	Operating Frequency	3200 MHz or better	To be checked physically by BOO.	Operating frequency must be as per the requirement mentioned in the QRs.
27.24	Number of	1 PCIe 3 x4 (x16)	To be checked physically by	PCIe slots must be as per

Srl/No.	Parameter	Specification	Trial procedure suggested for Board of Officers	Result expected/ desired
	PCIe slots Gen3(x16)	connector); 2 M.2 PCIe 3 x4; 1 PCIe Gen 3 x16; 2 PCIe 3 x1 (x4 open ended connector)	BOO.	the requirements mentioned in the QRs.

1. The Board of Officers shall ensure that the specifications are met and the trial procedure is followed.

2. The Board of Officers shall ensure that the specifications are met and the trial procedure is followed.

3. The Board of Officers shall ensure that the specifications are met and the trial procedure is followed.

[Signature]

 MG

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

(



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX – 1

Proforma for Compliance Statement for Specification / QR & TDs: -

- (a) Name of Item : Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipments in the AOR for 08 Nos. IB Deployed Units Under FTR HQ JAMMU.
- (b) Brand of Item :
- (c) Company of Origin :
- (d) Make & Lot No. :
- (e) Bidders are requested to give Compliance of each Specification whether equipment being offered by them is complying with Specification or otherwise as per proforma below:-

Sr. No.	Technical Specification / Qualitative Requirements	Complied	Not Complied. If not complied attach deviation statement	Page No. in the Tech. literature attached / enclosed with tender which specifically confirms this

Signature of Bidder



Appendix – 2

OFFER OF STORES

Tender No., _____

Full Name and Address: Post Box No.: (It should be quoted in all communication to this office.)	Contractor's Telegraphic Address: Telephone No(s): FAX No.: City Code used: E-mail Address.
--	--

To,

Engineering Projects India Limited
Core-3, SCOPE Complex, Lodhi Road
New Delhi – 110003

Dear Sir,

1. I/We hereby offer to supply the stores detailed in the schedule hereto or such portion thereof as you may specify in the Acceptance of Tender at the price given in the said schedule and agree to hold this offer open till _____. I/We shall be bound by a communication of acceptance within the prescribed time.
2. I/We have understood the instructions of contract which will govern by Rules **contained in the GFR 2017, Manual of Ministry of Finance for procurement of goods 2017 & all orders issued by MHA, CVC and other relevant departments of Government of India from time to time** till date of issue of this tender, placed by the Central Purchase Organization of the Government of India", as amended up to date. I/We have also understood that **any special conditions attached to this invitation to tender will also form part of the conditions of contract and will supersede any corresponding general condition.**
3. The following pages have been added to and form part of this tender.

(a) _____

(b) _____

(c) _____

(d) _____

Yours faithfully

SIGNATURE OF WITNESS

Address:- _____

Dated:- _____

(Signature of Bidder)

Name: _____

Address: _____

Dated: _____



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX – 3

DETAILS OF PARTICIPATING FIRM: _____

1.	(i)	Details of authorized Signatory of Participating Bidder :	
	(a)	Name	:
	(b)	Address	:
	(c)	Email & website, if any	:
	(d)	Telephone & Fax No.	:
	(ii)	Capacity in which filling the tender, Indian OEM / Distributor of Indian OEM / Indian System Integrator or PSU (Please specify if in any other category)	:
2.	(i)	As per TE clause, delivery period accepted or not	:
	(ii)	Monthly production capacity of tendered item.	:
	(iii)	Payment Terms as per TE clause accepted or not	:
	(iv)	Guarantee / Warranty as per TE clause accepted or not	:
3.		Whether stores fully conforms to Tender Schedule Specifications in all respects.	:
4.		State whether business dealings with you have been banned with Min./ Deptt. of Supply / Ministry of Home Affairs/ Any Central Government Ministry or Department / Any State Govt. ? If yes, then given the details otherwise upload the self-declaration certificate with technical bid.	:
5.		GST Tax Assessment / Return Office Address	:
6.		Income Tax Assessment / Return Office Address	:
7.	i)	PAN Number	:
	ii)	Income tax returns for the preceding three financial years	:
8.		After sales service centre along with Lab/Workshop for periodical maintenance & repair in NCR Region.	
	(i)	Registration details with validity	:
	(ii)	Location, building owned or leased	:



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

	(iii)	Addresses with nearest Police Station	:	
	(iv)	Details must be filled in Appendix attached.	:	Yes / No
9		Details of MOU / Authorization Certificate with Indian OEM for tendered item for a period of minimum two years.		
	(i)	Name of OEM	:	
	(ii)	No. of items including tendered equipment for MOU / Authorization Certificate.	:	
	(iii)	Specific period and validity of MOU / Authorization Certificate.	:	
	(iv)	Warranty / Guarantee & Availability of spares, repairs & Price reasonability having ownership of liability by OEM for tendered equipment.	:	
10		Essential documents for distributor of Indian OEM. In case of Indian distributor of Indian OEM, then must produce undertaking certificate in accordance to Clause 1.1 of Chapter IV of Tender Enquiry.	:	Yes / No
11		Proforma invoice of OEM to system integrator.		
12		Any criminal or civil case pending against firm or owner of the firm (Furnish details thereof).		Yes / No
13		Do you agree to sole arbitration by Secretary, Ministry of Home Affairs or by other some other person appointed by him as provided in Clause 9.9.1 and 9.9.2 of Manual for procurement goods 2017, MOF (It should, however, be noted that an omission to answer the above question will be deemed as an acceptance of the clause.		
14.		For Partnership Firms state whether they are registered or not registered under Indian Partnership Act, 1932. Should the answer to this question by a Partnership firm be in the affirmative, please state further:		
	(a)	Whether the partnership agreement, authority to refer disputes concerning the business of the partnership to arbitration has been conferred on the partner who has signed the tender.		
	(b)	If the answer to (a) is in the negative, Whether there is any general power of attorney executed by all the partners of the firm authorizing the partner who has signed		



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

		the tender to refer dispute concerning business of the partnership to arbitration.		
	(c)	If the answer to either (a) or (b) is the affirmative, please furnish a copy of either the partnership agreement or the general power of attorney as the case may be		
N.B. :-				
	1.	Please attach to the tender a copy of either document on which reliance is placed for authority of partners on the partner signing the tender to refer dispute to arbitration. The copy should be attested by a Notary Public or its execution should be admitted by affidavit on a properly stamped paper by all the partners.		
	2.	Where authority to refer disputes to arbitration has not been given to the partner signing the tender, the tenders must be signed by every partner of the firm.		
15.	Here State specifically			
	(i)	Whether the price tendered by you is to the best of your knowledge and belief, not more than the price usually charged by you for stores of same nature/class or description to any private purchaser either foreign or as well as Govt. Purchaser. If not state the reasons thereof. If any, also indicate the margin of difference .		
	(ii)	In respect of indigenous items for which there is a controlled price fixed by law, the price quoted shall not be higher than the controlled price and if the price quoted exceeds the controlled price the reasons thereof should be stated.		

Signature of Bidder : _____

Name in Block letter : _____

Capacity in which tender signed : _____

Full Address : _____



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX – 4

MANUFACTURING DETAILS OF INDIAN OEM & SYSTEM INTEGRATOR

(To be compulsory filled by Indian OEM or their Authorized Distributor)

Tender No. & Date. _____ For the supply of _____

1. Details of Manufacturer			
(i)	Name	:	
(ii)	Office	:	
	(a) Address	:	
	(b) Telephone No.	:	
	Landline		
	Mobile		
	(c) Fax	:	
	(d) E-mail	:	
(iii)	Works / Factory / Lab		
	(a) Address	:	
	(b) Telephone No.	:	
	Landline		
	Mobile		
	(c) Fax	:	
	(d) E-mail	:	
2.	(i)	Manufacturer/OEM having their own premise must upload Documentary evidence for the same. Brief Details thereof	
	(ii)	In case you are having leased / rented premise For the manufacturing/ integration/ works, documentary evidence be uploaded. Brief details thereof.	
	(iii)	In case you do not own the factory but utilize the factory of some other firm for the manufacture/ fabrication of the stores for which you apply for registration on lease or other base you should upload a valid legal agreement that the factory of (Here indicate the name of the firm whose factory is being utilized) has been put at your disposals for the manufacture / fabrication of the stores for which registration has been applied for .	
3. Brief description of factory / workshop / lab			
	(i)	Covered area & Open area	:
	(ii)	Whether area comes under Govt. authorized Industrial / commercial place for the same.	:



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

	(iii)	Power connection with load capacity and issued in the name of	:	
	(iv)	Functional departments of manufacturing/ works divided in to, details thereof)	:	
4.	Details of Plant and machinery erected and functioning in each department :-			
	(i)	Make & model of main machine	:	
	(ii)	Date of Purchase & commissioning	:	
	(iii)	Life of the Machine	:	
	(iv)	Details of subsidiary and associated machinery & equipment.	:	
5.	Details of Machine /equipment/laboratory for quality control		:	
6.	Details and stocks of raw material held (state whether imported or indigenous) against each item.		:	
7.	Production capacity of each item with existing plant & machinery			
	(i)	Normal	:	
	(ii)	Maximum	:	
8.	Details arrangement for quality control of products such as laboratory etc.		:	
9.	Manpower			
	(i)	Details of qualified Technical/Supervisory staff in-charge of production & quality control. Upload copies of CVs of these personnel with technical bid.	:	
	(ii)	Skilled labour employed	:	
	(iii)	Un-skilled labour employed	:	
	(iv)	Maximum no of workers (Skilled & unskilled)employed on any day during the 18 months preceding the date of application	:	
	(v)	Details of PF & ESI registration, available if any.	:	
10.	Whether stores were tested to any standard specification by National / International accredited Lab. If so, copies of original certificate should be submitted in triplicate.		:	
11.	Whether OEM having any BIS (ISI Mark) / ISO registration. If yes, give the details		:	



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

12.	Industrial license details. Upload the coy along with technical bid.	:	
13.	Give details & upload copy for following :-		
(i)	Whether MS (Micro Small Enterprises)	:	
(ii)	Whether medium or large sector Unit	:	
14.	Constitution of the firm (upload & furnish the details) : -		
(i)	Registration with under Indian Company Act 1956	:	
(ii)	Indian Partnership Act 1932	:	
(iii)	Indian Proprietary Firm Pvt. Ltd. Companies, LLC	:	
15.	Ownership of firm (Furnish the details of proprietor / partners / directors etc.)	:	
16.	Local Content If stores offered are manufactured in India, please state whether all the raw materials, components etc. used in their manufacture are also produced in India. If not, give details of materials components etc. that are imported and their breakup of the indigenous components in percentage (%) & Imported components in percentage (%).	:	
17.	<u>Declaration certificate : -</u> Indian OEM & their authorized distributor and Indian System Integrator firm will provide all documentary declaration certificates which are mentioned in Clause 1.1 of Chapter IV respectively.	:	Yes / No

Place :

Signature of Bidder

Date :

DESIGNATION _____

COMPANY / FIRM _____



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX – 5

SERVICE CENTRE AND WORKSHOP (AFTER SALE SUPPORT) DETAILS

(Essentially to be filled by all Bidders)

1.	Name of the After Support Centre	:	
2.	Contact Details	:	
(i)	Address	:	
(ii)	Telephone No.	:	
(iii)	Fax	:	
(iv)	E-Mail & Website	:	
3.	Contact person, Mobile No. & Designation	:	
4.	Details of available Infrastructure	:	
5.	Accreditation of Service Centre & Workshop, if any.	:	
6.	Registration of After sales service centre and Lab / Workshop with MSME / NSIC or any other concerned Central Govt. agency.	:	
7.	Capability of Periodical maintenance and repair	:	
8.	Reserve stock of manufacturer recommended list of spares (MRLS).	:	
9.	Stock of Special Maintenance & Repair Tools (SMRT)	:	
10.	Qualified Technical personnel available with Service Centre & Workshop.	:	
11.	Past performance of the Service Centre & Workshop	:	
12.	ISO certification available, if any.	:	

Signature of Bidder



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX - 6

PERFORMANCE (SUPPLY) STATEMENT FOR PREVIOUS 03 YEARS

S/N	Order Placed by Whom, with Order No. & Date	Store	Qty	Value	Delivery Period	Remarks (To include Reasons for Delay/ Cancellation/ Complaints etc.)
1						
2						
3						
4						
5						

- Note :
- (i) Firms to submit performance report of tendered store, executed for the Govt. Organizations during the last three years.
 - (ii) Firms also to submit copy of Supply order (last three years) with Technical bid.
 - (iii) In case of distributor /dealer/agent, the past performance of OEM will also be considered.

Signature of Bidder



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

APPENDIX – 7

Limited Tender Enquiry No.....

Dated

BID SECURING DECLARATION CERTIFICATE

(On Firm's letter head)

To

Engineering Projects India Limited

Core-3, SCOPE Complex, Lodhi Road

New Delhi – 110003

Sir,

Tender / GeM Bid No. _____ We, M/s _____ under take that if we withdraw or modify our bid during the period of validity, or we are awarded the contract and we fail to sign the contract, or to submit a performance security before the deadline defined in bids documents, we will be suspended for the period of **02 years** from being eligible to submit bids for contract with procuring entity i.e. **Engineering Projects India Limited**.

Yours Faithfully

(Signature of the Authorized Signatory of Bidder, with Official seal)



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

Appendix - 8

EOI No: EPI/CO/ITD/IT-DLI-DP/175/04/EOI Dated: 06.05.2025

Name of Work: Proc of Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment's on 08 Nos IB deployed Units under FTR HQ Jammu.

Bidder Name :

PRICE SCHEDULE

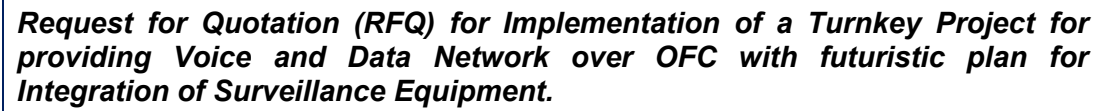
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Sl. No.	Item Description	Quantity	Units	Basic Price Per Unit in INR	GST per unit in INR	Custom Duty (CD) if any in Rs.	Price for free delivery to consignee basis (in INR)	Any Other leviable Taxes/Charges / Sub charges per unit in Rs.	Net Price Per Unit including all Taxes in Rs	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In Words
1	2:4 Power PLC splitter (2:4 Optical power splitter)	80	Nos						0.00	0.00	0.00	INR Zero Only
2	2:8 Power PLC splitter (2:8 Optical power splitter)	94	Mtr						0.00	0.00	0.00	INR Zero Only
3	12 Core single mode Optical Fibre (Cable)	394000	Mtr						0.00	0.00	0.00	INR Zero Only
4	HDPE pipe for laying of OFC	394000	Mtr						0.00	0.00	0.00	INR Zero Only
5	24 Port fiber LIU fully loaded with single mode SC adaptor, Adopter plate and pigtail	538	Nos						0.00	0.00	0.00	INR Zero Only
6	SC-LC Fiber duplex patch cord	112	Nos						0.00	0.00	0.00	INR Zero Only
7	LC-LC Fiber duplex patch cord	32	Nos						0.00	0.00	0.00	INR Zero Only
8	SC-SC Fiber duplex patch cord	1528	Nos						0.00	0.00	0.00	INR Zero Only
9	UTP cat 6 patch cord 3 meter (CAT-6 Patch cord 3 Mtr)	780	Nos						0.00	0.00	0.00	INR Zero Only
10	Layer 3 managed switch Industrial grade with 4 SFP	50	Nos						0.00	0.00	0.00	INR Zero Only



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

	enabled and 24 port											
11	IP 66 termination box for fiber termination and 8 port industrial switch	538	Nos						0.00	0.00	0.00	INR Zero Only
12	19 inches 9U network rack	66	Nos						0.00	0.00	0.00	INR Zero Only
13	19 inches 42 U network rack	8	Nos						0.00	0.00	0.00	INR Zero Only
14	Network Video recorder (NVR) 32 port with 16 TB HDD	48	Nos						0.00	0.00	0.00	INR Zero Only
15	Layer 2 managed switch Industrial grade with 2 SFP enabled and 8 Port POE	450	Nos						0.00	0.00	0.00	INR Zero Only
16	Layer 2 managed switch industrial grade with 2 SFP enabled and 8 Port	30	Nos						0.00	0.00	0.00	INR Zero Only
17	GPON 8 Port OLT	8	Nos						0.00	0.00	0.00	INR Zero Only
18	EMS software for managing GPON equipment	8	Nos						0.00	0.00	0.00	INR Zero Only
19	Monitor 55" (Industrial grade with wall mount)	74	Nos						0.00	0.00	0.00	INR Zero Only
20	Rack server (12 CPU)	8	Nos						0.00	0.00	0.00	INR Zero Only
21	Work station computer	74	Nos						0.00	0.00	0.00	INR Zero Only
22	3 KVA online UPS (With 60 Min Back up)	74	Nos						0.00	0.00	0.00	INR Zero Only
23	1 KVA offline UPS (with cabin with 120 Min backup)	640	Nos						0.00	0.00	0.00	INR Zero Only
24	GI Earthing	96	Nos						0.00	0.00	0.00	INR Zero Only
25	3.5 x 35SQ mm aluminum armored cable for connection from Border track to mount/ FDP including laying as per CPWD specification	59500	Mtrs						0.00	0.00	0.00	INR Zero Only
	3 core x 4 SQ mm copper wire for connection or wiring (for short	31200	Mtrs						0.00	0.00	0.00	INR Zero Only



26	distance below 50 Mtr)											
27	3 core x 2.5 SQ mm copper wire for connection or wiring (for short distance below 50 Mtr)	7800	Mtrs						0.00	0.00	0.00	INR Zero Only
28	3 phase aluminum bus bar on wall of FDP/ Mount from 63 amp to 100 amp	312	Nos						0.00	0.00	0.00	INR Zero Only
29	Joint Box	312	Nos						0.00	0.00	0.00	INR Zero Only
30	6 / 5 amp 2 switch + 2 socket box	624	Nos						0.00	0.00	0.00	INR Zero Only
31	15/ 16 amp 1 switch + 1 socket box	624	Nos						0.00	0.00	0.00	INR Zero Only
32	DP MCB	312	Nos						0.00	0.00	0.00	INR Zero Only
33	Lying of underground OFC cable for depth of 65 Cms	1	Mtr						0.00	0.00	0.00	INR Zero Only
34	Installation & Commissioning Charges	1	No						0.00	0.00	0.00	INR Zero Only
Total in Figures									0.00	0.00	0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only										



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

Note	
a)	Bidders are requested to read the instructions carefully before filling the Price Bid Proforma.
b)	The complete commercial quote should be in Indian Rupees (INR).
c)	<p>Bidders are required to indicate Basic Prices, Custom Duty, GST and any other leviable taxes/charges separately within the Performa for Price Bid. Taxes/duties/charges reflected outside the Performa will not be accepted. Bidder must attach copies of Govt. Notification in support of all applicable Taxes/ duties/ charges quoted in the offer.</p> <p>The firm has to mention prevailing custom duty/ other taxes in the proforma along with price bid and must attach copy of Govt. notification in this regard. If Custom Duty/ any other taxes is quoted/ reflected as "Nil" or "Zero" under relevant column of Price Bid, no Custom Duty Exemption Certificate (CDEC) / any other tax exemption will be granted. Subsequently upon placement of Supply Order, no further request will be entertained in this regard. Final payment would be made only on production of other tax clearance.</p>
d)	Other Statutory Taxes will be applicable at actuals, if admissible.
e)	Bidder will attach justification of price quoted. This also includes the recently executed contracts of the store in question with Govt/ Semi Govt. organization etc. All the documents should be provided in pdf format.
f)	Firm will provide consumables & spares free of cost during demonstration/ Trial and training.
g)	Rates quoted in BOQ sheet would be considered for deciding L-1. L-1 will be decided on the final value (total amount with taxes) i.e. the item would cost to EPIL. Rates will be compared by taking account inclusive of all Taxes & Duties to decide L-1. Spares parts (MRLS) rates will not be considered for deciding L-1 and the same are not binding on the purchaser.
h)	No column should be left blank. Wherever amount is not quoted, the column should be filled with basic rate i.e 00.00.
i)	The decision / interpretation of EPIL shall be final in all respect.

Signature of Bidder



APPENDIX – 9

ELECTRONIC CLEARING SERVICE (CREDIT CLEARING PAYMENTS)

A. DETAILS OF ACCOUNT HOLDER-

Name of account holder	
Complete contact address	
Telephone number/Fax/E-mail	

B. BANK ACCOUNT DETAILS

Bank name	
Branch name with complete address, telephone number and E-mail	
Whether the branch is computerized?	
Whether the branch is RTGS enabled? If yes, then what is the branch's IFSC code?	
Is the branch also NEFT enabled?	
Type of bank account (SB/current/cash credit)	
Complete bank account number (new)	
MICR code of bank	
Name & address of the beneficiary/ payee	
IFSC (Indian financial system) code	

C. DATE OF EFFECT-

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed, or not effected at all for reasons of Incomplete or Incorrect Information, I would not hold the user Institution responsible. I have read the option Invitation letter and agree to discharge responsibility expected of me as a participant under the Scheme.

Date: (.....)
Signature of Customer

Certified that the particulars furnished above are correct as per our records.

(Bank's Stamp)

Date: (.....)
Signature of the Authorized Official from the Bank

1. Please attach a photocopy of Cheque along with the verification obtained from the Bank.
2. In case your Bank Branch is presently not "RTGS enabled", then upon its up gradation to "RTGS Enabled" branch, please submit the information again in the above Proforma to the Department at the earliest.



APPENDIX – 10

CERTIFICATE TO BE SIGNED BY THE BIDDER

DECLARATION CERTIFICATE

It is certified that I/We have read over and understood all instructions contained in tender enquiry and its schedule along with policy matter given in Rules of **contained in the GFR 2017, Manual of Ministry of Finance for procurement of goods 2017 & all orders issued by MHA**, CVC and other relevant departments of Government of India from time to time till date of issue of this tender, placed by the Central Purchase Organization of the Government of India", as amended up to date. I/We have also understood that any special conditions attached to this invitation to tender will also form part of the conditions of contract and will supersede any general condition.

2. It is declared that all Appendix and forms given in Chapter IX and all other required documents are properly filled stamped and signed as correct and updated in best knowledge of bidder. This will be in support of bidder's eligibility, qualification and responsiveness of their bid.

3. **It is declared that all requisite Appendix, questionnaire and format given in RFQ Documents are duly signed, stamped and uploaded on CPP portal well before last date and time.**

4. Bidder is responsible for the correctness of the information filled in the Bid documents and shall be responsible for legal course of action in case of any mischief, incorrect, misleading fact or declaration found in their technical bid and other relevant documents. In that case they would also be liable for suspension of business, debar from participation in BSF along with other CAPF (MHA) tender.

Signature of Bidder ::

Name in block letters ::

Name of firm ::

Full address ::

Telephone No ::

Mobile No ::

Fax No. ::

Email ID ::

Website



APPENDIX – 11

PRE- CONTRACT INTEGRITY PACT

GENERAL

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on __day of the month of 20__, between, on one hand, the President of India acting through Shri _____, Designation of the officer, Ministry / Department, Government of India (hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s _____ represented by Shri ----- Chief Executive Officer (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipments on 08 Nos IB Deployed Units Under FTR HQ Jammu and the BIDDER / Seller is willing to offer / has offered the stores and

WHEREAS the BIDDER is a private company / public company / Government undertaking / partnership / registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Ministry / Department of the Government of India / PSU performing its functions on behalf of the President of India.

NOW, THEREFORE

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: -

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit 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: -



Commitments of the Buyer

1.1 The Buyer undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, 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 The 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 which could afford an advantage to that Particular BIDDER in comparison to other BIDDERS.

1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with 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.

COMMITMENTS OF BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following: -

3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official 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.

3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official 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 Government for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract with the Government.

3.3* BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.

3.4* BIDDERS shall disclose the payments to be made by them to agents / brokers or any other intermediary, in connection with this bid / contract.

3.5* The BIDDER further confirms and declares to the BUYER that the BIDDER is the OEM or authorized dealer / agent / distributor of the stores and has not engaged any individual or firm or company whether Indian or foreign 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, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.7 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.

3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The BIDDER shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals 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.

3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 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 officer of the BUYER 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.

3.13 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 the BUYER.

4. Previous Transgression

4.1 The BIDDER declares that no previous transgression 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.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Bid Securing Declaration and PSD

5.1 While submitting commercial bid, the BIDDER shall submit Bid Securing Declaration in the Company/Firm's letter head and **Performance Security Deposit @ 5% of the contract / order value within 14 days of award of contract** with the BUYER in the shape of Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial bank, Bank Guarantee from a Commercial bank or online payment in an acceptable form safeguarding the purchaser's interest in all respects.

5.2 The Performance Security Deposit shall be valid up to 60 days after the expiry of the Guarantee/ Warranty period or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER including warranty period, whichever is later.



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

5.3 In case of the successful BIDDER, Provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

5.4 No interest shall be payable by the BUYER to the BIDDER on Security Deposit for the period of currency.

6. Sanctions for Violations

6.1 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: -

(i) 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.

(ii) The 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 thereof.

(iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

(iv) 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.

(v) 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.

(vi) 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.

(vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

(viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.

(ix) 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.

(x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The BUYER will be entitled to take all or any of the actions mentioned at Para 6.1 (i) to (x) of this 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.

6.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purpose of this Pact.

7. Fall Clause

7.1 The BIDDER undertakes that it has not supplied / is not supplying similar product / systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry / Department of the Government of India or PSU and if it is found at any stage that similar product / systems or sub systems was supplied by the BIDDER to any other Ministry / Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

8. Independent Monitors

8.1 The BUYER has appointed independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission. Names and Addresses of the Monitors is as under: -

Name: _____

Address: _____

Mobile: _____

Telephone: _____

E-Mail: _____



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have right to access all the documents relating to the project / procurement, including minutes of meeting.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to 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. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER / Subcontractor(s) with confidentiality.

8.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The Monitor will submit a written report to the designated Authority of BUYER / Secretary in the Department / within 8 to 10 weeks from the date of reference or intimation to him by the BUYER / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this 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.

10. Law and Place of Jurisdiction

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

11. Other Legal Actions



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

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 extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this Integrity Pact shall be from date of its **signing** and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER / Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

The parties hereby sign this Integrity Pact at _____ on _____

BUYER

BIDDER

(Rajeev Kumar Pandey)
Head – SBU – 1

CHIEF EXECUTIVE OFFICER

For and on behalf of President of India

Witness

1. _____
2. _____

Witness

1. _____
2. _____



APPENDIX – 12

(To be in the company letter head)

DECLARATION & UNDERTAKING BY MICRO & SMALL SCALE ENTERPRISES / STARTUP COMPANIES

Sl. No	Particulars	Details
1	Is your organization Proprietary / Partnership / Private Limited Companies / Public Limited Company /Others	
2	Does your organization belong to Micro / Small / Medium scale Industry / Start-ups / others (Please tick mark appropriate box. If bidder is Start-up & MSE, then please tick mark both)	<ul style="list-style-type: none"><input type="radio"/> Micro<input type="radio"/> Small Scale<input type="radio"/> Medium<input type="radio"/> Start-up Company<input type="radio"/> Others
3	Whether Manufacturer for the tendered items (supply) / Service Provider for the tendered services as per MSE certification. (Please tick mark the appropriate).	<ul style="list-style-type: none"><input type="radio"/> Manufacturer for supply items<input type="radio"/> Service Provider for services<input type="radio"/> Trader/reseller/authorized agent /distributor<input type="radio"/> Non MSE Bidder
4	In Case you belong to Micro / Small / Medium Scale Enterprises whether you are registered under SC / ST Category (Please mark the appropriate)	<ul style="list-style-type: none"><input type="radio"/> Yes<input type="radio"/> NoIf yes,<ul style="list-style-type: none"><input type="radio"/> SC<input type="radio"/> ST
5	In case you belong to Micro / Small / Medium Scale category whether MSE firm owner by women.	<ul style="list-style-type: none"><input type="radio"/> Yes<input type="radio"/> No

A) CATEGORISATION OF MSE/SC-ST VENDORS

1. In case of Micro / Small /Medium scale Enterprises, kindly attach Registration Certificate issued by DIC/KVIC/KVIB/Coir Board/ NSIC/Directorate of Handicrafts and Handlooms, or any other body specified by MSME for authentication such as Udyog Aadhaar Memorandum/Acknowledgement.
2. SC/ST entrepreneurs registered under MSEs need to submit valid documentary evidence.
3. MSEs owned by women.

B) CATEGORISATION OF START-UP COMPANIES

Bidder who intends to participate as "Start-up" company should also enclose the Certificate of Recognition issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India.

C) DECLARATION IN CASE OF MSE BIDDERS / START-UP COMPANIES.

In terms of Tender Conditions applicable for Micro & Small Enterprises (MSEs)/ Start-ups, we hereby declare as under -



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

- a) We are a Micro / Small Enterprise, as on bid closing date of this tender.
- b) We are a Manufacturer of the quoted supply item(s) / service provider for quoted services and valid documentary evidence for same is submitted.
- c) MSE certificate submitted by us is authentic & valid as on bid closing date of this tender.
- d) We are a 'Start-up' company and we are enclosing copy of certificate of recognition issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India.

We declare the above details are true. In case any of the details are found to be false/ untrue, our offer will be liable for rejection / cancellation of order / subjected to appropriate actions as per tender Terms & Conditions

Authorized Signatory
(With Company Seal & Signature)



APPENDIX – 13

CERTIFICATE INDICATING PERCENTAGE OF LOCAL CONTENT REQUIREMENT FOR CLASS-1 LOCAL SUPPLIER AND CLASS-II LOCAL SUPPLIER

Tender No. _____ date _____ for supply of _____

S/No	Details	
(i)	Type of Supplier (Class-1 local supplier or Class -II Local supplier	
(ii)	Percentage of local content	
(iii)	Self-Certification less than Rs.10 Crore. Above Rs.10 Crore, enclose a certificate from the Statutory auditor or cost Auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of other than companies)	
(iv)	Location(s) at which the local value addition	
(v)	Debarment for violation of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (Public Procurement Section) order dated 04/06/2020.	

Signature of Bidder:

Name in block letters:

Name of firm:

Full address:



APPENDIX - 14

(To be in the Company letter head)

Certificate regarding compliance of Ministry of Finance, Department of Expenditure, Public Procurement Division Order No. F.NO. 6/18/2019-PPD dated 23.07.2020.

I certified that Engineering Projects (India) Ltd. (Name of the firm) is not covered by the definition of the bidder as mentioned in **Annexure-III of MOF order No. 6/18/2019-PPD dated 23.07.2020** and is thus not required to be registered with the Competent Authority for this purpose.

OR

I certify that Engineering Projects (India) Ltd. (Name of the firm) comes within the ambit of clauses mentioned in **Annexure-III of MOF order No. 6/18/2019-PPD dated 23.07.2020** and for this purpose, it is registered with the Competent Authority. Valid registration certificate no.datedissued byis enclosed.
(Strike off the portion not applicable).

Signature of Bidder : _____

Name in block letters : _____

Name of firm : _____

Full Address : _____



APPENDIX – 15

NON – DISCLOSURE AGREEMENT

(To be signed by Recipients/ SIs before obtaining tender documents)

(Refer: Tender Enquiry No. _____ dated _____)

[The Non-disclosure Agreement needs to be signed by a person duly authorised by the Recipient/ SI. A copy of the authorisation by the Recipient/ SI (copy of Board Resolution or Power of Attorney) should be provided along with the Non-Disclosure Agreement]

[Non-Disclosure Agreement to be submitted on duly notarized stamp paper of Rs.100]

This AGREEMENT (hereinafter called “Agreement” is made on the _____ day of the month of _____, _____ between, **Engineering Projects India Limited CORE -3, SCOPE Complex, Lodhi Road, New Delhi – 110003**, on the one hand, (hereinafter called the “Disclosing Party/Purchaser”) and, on the other hand. [_____ Name of the Recipient] (hereinafter called the “Recipient” / “SI”) having its registered office at [_____ (Address)].

WHEREAS

1. The disclosing Party/ Purchaser has issued a public notice inviting various organizations for **“Implementation of a Turnkey Project for providing voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment’s on 08 Nos. IB Deployed Units Under FTR HQ Jammu”**. (hereinafter called the “Project”) of the Disclosing Party/Purchaser,
2. The Recipient/ SI having represented to the "Disclosing Party"/ "Purchaser" that it is interested to bid for the proposed Project;

The Disclosing Party / Purchaser and the recipient /SI agree as follows:

1. In connection with the "Project", the Disclosing Party/ Purchaser agrees to provide to the Recipient/ SI a Document related to Turnkey Jammu Project vide the request for Proposal contains details and information of the Purchaser operations that are considered confidential.
2. The Agreement shall apply to all information relating to the project disclosed by the Disclosing Party/ Purchaser to the Recipient/ SI under this Agreement.
3. This Agreement shall benefit and be binding upon the Disclosing Party/ Purchaser and the Recipient/ SI and their respective subsidiaries, affiliates, successors and assigns.
4. The Recipient/ SI to whom this information is disclosed shall:
 - a) Hold such information in confidence with the same degree of care with which the Recipient/ SI protects its own confidential and proprietary information;



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

- b) Restrict disclosure of the information solely to its employees, agents and contractors with a need to know such information and advise those persons of their obligations here under with respect of such information;
 - c) Use the information only as needed for the purpose of bidding for the Project;
 - d) Except for the purpose of bidding for the project, the Recipient / SI shall not copy or otherwise duplicate such information or knowingly allow anyone else to copy or otherwise duplicate such information; and
 - e) Undertake to document the number of copies it makes on completion of the bidding process and in case unsuccessful, promptly return to the Disclosing Party/ Purchaser, all information in a tangible form or certify to the Disclosing Party/ Purchaser that it has destroyed such information.
5. **Third Party Information:** Recipient/ SI shall not communicate any information, in violation of the proprietary rights, to any third party.
6. **Return of Materials:** Any materials or documents of Disclosing Party/ Purchaser which are furnished to Recipient/SI, and all copies thereof, at the earlier of Disclosing Party's request for return of the materials, or the termination of the business relationship between the Disclosing Party and Recipient, at the disclosing Party's/ Purchaser's Option, will either be promptly returned to the Disclosing Party/ Purchaser.
7. **No License:** The confidential information shall remain the sole property of the Disclosing Party/ Purchaser. No license is granted to Recipient/ SI under any patents, copyrights, mask work rights or other proprietary rights by the disclosure of any information hereunder, nor is any warrant made as to such information.
8. **Remedies:** Recipient/SI understands and agrees that the disclosing party/ purchaser is providing the Confidential Information to Recipient in reliance upon this Agreement, and Recipient/ SI will be fully responsible to the Disclosing Party/ Purchaser for any damages or harm caused to the Disclosing Party/ Purchaser by a breach of this Agreement by Recipient/ SI or any of its officers, directors, employees or consultants. Recipient acknowledges and agrees that a breach of any of its promises or agreements contained herein will result in irreparable injury to the Disclosing Party/ Purchaser for which there will be no adequate remedy at law, and the Disclosing Party/ Purchaser shall be entitled to apply for equitable relief, including injunction and specific performance, in the event of any breach or threatened breach or intended breach of this Agreement by Recipient/ SI, such remedies, however, shall not be deemed to be the exclusive remedies for any breach of the Agreement but shall be in addition to all other remedies available at law or in equity.
9. **Termination & Survival:** This Agreement will become effective as of the date first mentioned herein above and will continue to be in force till the completion of Bid thereafter. Recipient's / SIs obligations under this Agreement with respect to Confidential Information it has received shall continue for a period of two (2) years after such disclosure.
10. **Attorneys' Fees, Jurisdiction/ Venue:** In the event of any litigation or other legal proceedings between the parties, the prevailing party shall be entitled to reasonable attorneys' fees and all costs of proceedings incurred in enforcing this agreement. The



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

courts in New Delhi, India shall have exclusive jurisdiction to try and dispose of any proceedings arising out of this Agreement. The laws of the Union of India shall govern the validity, interpretation and performance of this Agreement.

11. **General** : This Agreement sets forth the entire understanding and agreement of the parties with respect to the subject matter hereof and supersedes all other oral or written representations and understandings. This Agreement may be amended or modified only in writing signed by authorized representatives of the parties thereto.

Note : _____

For and on behalf of the Recipient/ SI

For and on behalf of the Recipient/ SI

(Signature with Company Seal)

(Signature with Company Seal)

Name :
Designation :
Contact Details:

Name :
Designation :
Contact Details:



Appendix – 16

DECLARATION IN RESPECT OF CONFLICT OF INTEREST

1)	Name of firm	Office address of firm, Phone No., Fax No. & Email ID	Firm works address as per vendor Registration, Phone No., Fax No., Email ID	Type of Firm (Sole Proprietorship / Partnership / Limited Liability Partnership / Private Limited Company / Public Limited Company)	CIN / LLPIN of firm	GST Registration No of the firm
	(1)	(2)	(3)	(4)	(5)	(6)
2)	Name of all Owner (s) / Director (s) of firm	Father's/ Husband's name of all Owners / Director(s)	DIN	Full residential Address	Aadhar Card of owner / Director(s) of firm be attached	Udyam Registration Certificate No., attach a copy
	(1)	(2)	(3)	(4)	(5)	(6)

- 3) **WE HEREBY DECLARE AND CONFIRM THAT** no bid has been submitted for the quoted item by any other Private Limited or Public Limited Company or Limited Liability Partnership (LLP) or Partnership Firm or Proprietor Firm in which any relative of any Director or Partner or Proprietor of Bidder Firm is Director, Partner or Proprietor. The work "relative" is defined as under: -

The companies Act, 2013 Sec 2(77) "relative" & "MOF Manual for Procurement of Goods (Para 5.1.4) with reference to any person, means anyone who is related to another, if: -

- (i) they are member of a Hindu Undivided Family"



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

- (ii) they are husband and wife " or
- (iii) One person is related to the other in such manner as prescribed below:-
 - a) Mother including step-mother
 - b) Son including step-father
 - c) Son's wife
 - d) Daughter
 - e) Daughter' Husband
 - f) Brother including step-brother
 - g) Sister including step-sister

4) **WE FURTHER DECLARE THAT** we have carefully read and understood the clause relating to "Conflict of Interest" of Tender No. _____ Dated: _____

5) We hereby certify that our firm M/s _____ (firm name) do not have any Conflict of Interest with other bidders for particular quoted item viz _____ (Item name) We hereby declare and confirm that the above information and particulars are true and correct.

For _____ (firm name)

Signature of Director / Partner / Proprietor / Authorized Signatory

Name: _____

Designation: _____

(With official Stamp)

Place:

Date:



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

Appendix – 17

CHECK LIST FOR BIDDERS

Before submission / uploading of Bid documents, Bidders should check they have complied with the following requirements: -

S. No.	Requirements to be checked before submission of the tender	Complied (Please indicate YES or NO)	Indicate Page No.
1.	Bid Securing Declaration has been enclosed.		
2.	If registered with NSI/ DIC/ KVIC/ MSME Udhog Aadhar and copies of valid registration certificate uploaded.		
3.	If an SSI / MSE (Micro Small Enterprises), it has been mentioned in tender & copy of valid registration certificate uploaded.		
4.	Monthly manufacturing & supplying capacity has been mentioned in the Bid documents.		
5.	Complete Bid documents have been uploaded, after digital signature & stamping on all pages.		
6.	Signatures of witness with full name and address have been added wherever required on Bid document.		
7.	Proposal has been submitted in two bid system - Technical Bid & separate Commercial Bid as per tender enquiry.		
8.	Offer validity as required in tender has been accepted & clearly mentioned in Bid document.		
9.	Delivery Terms & Period as per tender has been accepted and mentioned in tender.		
10.	Payment Terms as per tender have been accepted and mentioned in tender.		
11.	Compliance statement in format required in tender has been uploaded along with supporting technical documents/proof for each point/parameter clearly showing it is complied with or not.		
12.	Performance (supply) statement for previous years as required in tender, in the laid down format, has been enclosed. If not, reasons be specifically given in writing.		
13.	Warranty terms as per tender accepted.		
14.	Status of Bidder has been clearly written in tender- manufacturer or manufacturers authorized distributor/ System Integrator/ Customized service provider. If authorized distributor, valid authority letter / MOU for the stores quoted has been uploaded.		
15.	Declaration in respect of Conflict of Interest		
16.	If called for trial, tendered equipment will be deposited well in time before trial board detailed by BSF on given date, time & place along with necessary documents and lab report.		
17.	Lab test report from National/ International accredited lab as required in tender, in original, giving clear verdict as per requirement of tender has been enclosed.		
18.	Acceptance of Functional Demo clause, as required in tender, has been specified in writing.		



Request for Quotation (RFQ) for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment.

19.	Free Training on use of equipment after supply, as specified in tender, has been accepted in writing.		
20.	Condition of contract have been accepted and specifically written in Bid documents.		
21.	<p>The following proforma enclosed with tender have been properly & completely filled in, signed & stamped.</p> <p>a) Compliance statement for specification QRs / TDs (Appendix-1)</p> <p>b) Offer of stores (Appendix-2)</p> <p>c) Details of participating firms (Appendix-3)</p> <p>d) Manufacturing details of Indian OEM (Appendix-4)</p> <p>e) Service Centre & Workshop (Appendix-5)</p> <p>f) Performance statement for previous year (Appendix-6)</p> <p>g) Bid Securing Declaration (Appendix-7)</p> <p>h) Proforma fore-payment (Appendix-9)</p> <p>i) Declaration Certificate (Appendix-10)</p> <p>j) Pre-Contract Integrity Pact (Appendix-11)</p> <p>k) Declaration & Undertaking by MSEs & Start-ups firms (Appendix-12)</p> <p>l) Percentage of Local Content (Appendix-13)</p> <p>m) Certificate regarding compliance of Ministry of Finance, Department of Expenditure, Public Procurement Division Order No. F. No. 6/18/2019-PPD dated 23.07.2020 (Appendix-14)</p> <p>n) Non-Disclosure Agreement (NDA) (Appendix- 15) (Firms will submit NDA physically in Engineering Projects India Limited, Core-3, SCOPE Complex, Lodhi Road, New Delhi – 110003)</p> <p>o) Conflict of Interest (Appendix- 16)</p>		
22.	The Bidder has to clearly mention in writing that business dealings with their firms have not been banned by any Govt / Private agency.		
23.	If the Bidder wants to mention any specific condition, it must be uploaded along with technical bid but on separate letter head and not in the Bid documents. Such condition mentioned in any other document will not be given any consideration.		
24.	Is certificate indicating percentage of local content requirement and due location where local value addition is done for class-I Local Supplier and Class-II Local Supplier provided (Appendix-13).		
25.	Indigenous bidder must be prepared to offer the product/Eqpt for trial on short notice after hearing from the Purchaser/ TEC.		
26.	Bidders have to sign the Pre-Contract Integrity Pact in the presence of witness & upload it with their technical bids as it is pre-requisite and a mandatory requirement without which no bids would be accepted		
27.	Is certificate regarding compliance of Ministry of Finance order dated 23.07.2020 provided (Appendix-14)		

Signature of Bidder

EPI/CO/ITD/TENDER-BSF-OFC/175/001 DTD. 18.06.2025

Name of Work: Request for Quotation (RFQ) From Empanelled Agencies for Implementation of a Turnkey Project for providing Voice and Data Network over OFC with futuristic plan for Integration of Surveillance Equipment on 08 Nos. IB deployed Units under BSF Frontier HQ Jammu.

Bidder Name :

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. the Bidder Name and Values only)

Bidders are allowed to enter

Sl. No.	Item Description	Quantity	Units	Basic Price Per Unit in INR	GST per unit in INR	Custom Duty (CD) if any in Rs.	Price for free delivery to consignee basis (in INR)	Any Other leviable Taxes/Charges / Sub charges per unit in Rs.	Net Price Per Unit including all Taxes in Rs	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In Words
1	2:4 Power PLC splitter (2:4 Optical power splitter)	80	Nos						0.00	0.00	0.00	INR Zero Only
2	2:8 Power PLC splitter (2:8 Optical power splitter)	94	Mtr						0.00	0.00	0.00	INR Zero Only
3	12 Core single mode Optical Fibre (Cable)	394000	Mtr						0.00	0.00	0.00	INR Zero Only
4	HDPE pipe for laying of OFC	394000	Mtr						0.00	0.00	0.00	INR Zero Only
5	24 Port fiber LIU fully loaded with single mode SC adaptor, Adaptor plate and pigtail	538	Nos						0.00	0.00	0.00	INR Zero Only
6	SC-LC Fiber duplex patch cord	112	Nos						0.00	0.00	0.00	INR Zero Only
7	LC-LC Fiber duplex patch cord	32	Nos						0.00	0.00	0.00	INR Zero Only
8	SC-SC Fiber duplex patch cord	1528	Nos						0.00	0.00	0.00	INR Zero Only
9	UTP cat 6 patch cord 3 meter (CAT-6 Patch cord 3 Mtr)	780	Nos						0.00	0.00	0.00	INR Zero Only
10	Layer 3 managed switch Industrial grade with 4 SFP enabled and 24 port	50	Nos						0.00	0.00	0.00	INR Zero Only
11	IP 66 termination box for fiber termination and 8 port industrial switch	538	Nos						0.00	0.00	0.00	INR Zero Only
12	19 inches 9U network rack	66	Nos						0.00	0.00	0.00	INR Zero Only
13	19 inches 42 U network rack	8	Nos						0.00	0.00	0.00	INR Zero Only
14	Network Video recorder (NVR) 32 port with 16 TB HDD	48	Nos						0.00	0.00	0.00	INR Zero Only
15	Layer 2 managed switch Industrial grade with 2 SFP enabled and 8 Port POE	450	Nos						0.00	0.00	0.00	INR Zero Only
16	Layer 2 managed switch industrial grade with 2 SFP enabled and 8 Port	30	Nos						0.00	0.00	0.00	INR Zero Only
17	GPON 8 Port OLT	8	Nos						0.00	0.00	0.00	INR Zero Only
18	EMS software for managing GPON equipment	8	Nos						0.00	0.00	0.00	INR Zero Only
19	Monitor 55" (Industrial grade with wall mount)	74	Nos						0.00	0.00	0.00	INR Zero Only
20	Rack server (12 CPU)	8	Nos						0.00	0.00	0.00	INR Zero Only

21	Work station computer	74	Nos						0.00	0.00	0.00	INR Zero Only
22	3 KVA online UPS (With 60 Min Back up)	74	Nos						0.00	0.00	0.00	INR Zero Only
23	1 KVA offline UPS (with cabin with 120 Min backup)	640	Nos						0.00	0.00	0.00	INR Zero Only
24	GI Earthing	96	Nos						0.00	0.00	0.00	INR Zero Only
25	3.5 x 35SQ mm aluminium armoured cable for connection from Border track to mount/ FDP including laying as per CPWD specification	59500	Mtrs						0.00	0.00	0.00	INR Zero Only
26	3 core x 4 SQ mm copper wire for connection or wiring (for short distance below 50 Mtr)	31200	Mtrs						0.00	0.00	0.00	INR Zero Only
27	3 core x 2.5 SQ mm copper wire for connection or wiring (for short distance below 50 Mtr)	7800	Mtrs						0.00	0.00	0.00	INR Zero Only
28	3 phase aluminium bus bar on wall of FDP/ Mount from 63 amp to 100 amp	312	Nos						0.00	0.00	0.00	INR Zero Only
29	Joint Box	312	Nos						0.00	0.00	0.00	INR Zero Only
30	6 / 5 amp 2 switch + 2 socket box	624	Nos						0.00	0.00	0.00	INR Zero Only
31	15/ 16 amp 1 switch + 1 socket box	624	Nos						0.00	0.00	0.00	INR Zero Only
32	DP MCB	312	Nos						0.00	0.00	0.00	INR Zero Only
33	Lying of underground OFC cable for depth of 65 Cms	1	Mtr						0.00	0.00	0.00	INR Zero Only
34	Installation & Commissioning Charges	1	No						0.00	0.00	0.00	INR Zero Only
Total in Figures									0.00	0.00	0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only										