NIT No. BSEDC/3968/2021 Dated 03.08.2021

Selection of System Integrator for Implementation of CCTV Surveillance & Public Address System at Patna High Court

Request for Proposal

Issued By

Bihar State Electronics Development Corporation (BSEDC)

(A Government of Bihar Undertaking) BELTRON Bhawan, Shastri Nagar, Patna, Bihar Tel No: - 0612-2281242, 0612-2281857

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Disclaimer

The information contained in this tender or subsequently provided to bidders, whether verbally or in documentary or any other form by or on behalf of the BSEDC or any of its employees or advisers, is provided to bidders on the terms and conditions set out in this Tender and such other terms and conditions subject to which such information is provided. This Tender is issued by the BSEDC. This Tender is not an agreement and is neither an offer nor invitation by the BSEDC to the prospective bidders or any other person. The purpose of this Tender is to provide interested parties with information that may be useful to them in the formulation of their Bid pursuant to this Tender. This Tender includes statements, which reflect various assumptions and assessments arrived at by the BSEDC in relation to the IP based CCTV Surveillance & Public Address system at the Patna High Court. Such assumptions, assessments and statements do not purport to contain all the information that each applicant may require. This tender may not be appropriate for all persons, and it is not possible for the BSEDC, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this tender. The assumptions, assessments, statements and information contained in this tender, may not be complete, accurate, adequate or correct. Each applicant should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this tender and obtains independent advice from appropriate sources. Information provided in this tender to the bidders is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The BSEDC accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein. The BSEDC its employees and advisers make no representation or warranty and shall have no liability to any person including any applicant under any law, statute, and rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this tender or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the tender and any assessment, assumption, statement or information contained therein or deemed to form part of this tender or arising in any way in this selection process. The BSEDC also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any bidder upon the statements contained in this tender. The BSEDC may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this tender. The issue of this tender does not imply that the BSEDC is bound to select an bidder or bidders, as the case may be, for the selection of IP based CCTV Surveillance and Public Address system solutions and the BSEDC reserves the right to reject all or any of the proposals without assigning any reasons whatsoever. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the BSEDC or any other costs incurred in connection with or relating to its proposal. All such costs and expenses will remain with the bidder and the BSEDC shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a bidder in preparation or submission of the bid, regardless of the conduct or outcome of the selection process.

[Confidentiality]

This document has been circulated for limited circulation only, amongst the vendors who have requested for the purchase of RFP for the Selection of System Integrator for implementation, operation & Maintenance of IP based CCTV Surveillance and Public Address System for Patna High Court. Information shared to the bidders through this document is confidential in nature and pertains to security of Bihar. Any further circulation of this information, without prior permission of the BSEDC, is prohibited and would attract punishment / penalties.

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1. Abbreviation

ANR	Automatic Network Replenishment
BG	Bank Guarantee
BoQ	Bill of Quantity
BSEDC	Bihar State Electronics Development Corporation
CAPEX	Capital Expenditure
CCTV	Closed Circuit Television
CMC	Central Monitoring & Control Center
CMOS	Complementary Metal–Oxide–Semiconductor
DD	Demand Draft
DSC	Digital Signature Certificate
DSP	Digital Signal Processing
EIA	Electronic Industries Alliance
EMD	Earnest Money Deposit
EMS	Enterprise Management Software
FAT	Final Acceptance Test
FOV	Field 0f View
FPS	Frame Per Second
FRS	Functional Requirement Specification
GB	Gigabyte
GST	Goods and Services Tax
GUI	Graphical User Interface
HA	High-Availability
HC	Patna High Court
HTTPS	Hyper Text Transfer Protocol Secure
IEEE	Institute of Electrical and Electronics Engineers
IK	Impact Protection Rating
IP	Internet Protocol
IP	Ingress Protection
IR	Infrared
ISO	International Organization for Standardization
ITIL	Information Technology Infrastructure Library
JPG	Joint Picture Group
LoI	Letter of Intent
MAF	Manufacturers Authorization Form/Format
Mbps	Megabit Per Second
MIS	Management Information System
NA	Nodal Agency
NBD	Next Business Day
NEFT	National Electronic Funds Transfer
OD	Outer Diameter
OEM	Original Equipment Manufacturer
OFC	Optical Fiber Cable
ONVIF	Open Network Video Interface Forum

OPEX	Operating Expense
OSD	On Screen Display
PA	Public Announcement
PAT	Partial
PMU	Project Management Unit
PO	Purchase Order
PSU	Public Sector Undertaking
PTZ	Pan-Tilt-Zoom
QGR	Quarterly Guaranteed Revenue
RAID	Redundant Array of Independent Disks
RFP	Request for Proposal
RTGS	Real-Time Gross Settlement
SAT	Site Acceptance Test
SI	System Integrator
SLA	Service Level Agreement
SNMP	Simple Network Management Protocol
SRS	Software Requirements Specification
SRTP	Secure Real-Time Transport Protocol
SSL	Secure Sockets Layer
TC-PC	Technical Committee and Purchase Committee
TSL	Transport Layer Security
UPS	Uninterrupted Power Supply
VA	Video Analytics
VCA	Video Content Analysis
VLAN	Virtual LAN
VMS	Video Management System
VoIP	Voice Over IP
WDR	Wide Dynamic Range

2. Definition

Sl. No.	Term	Definition
1.	Agreement/ Contract	The Agreement entered between the BSEDC and the Agency including all attachments, schedules, annexure thereto and all documents incorporated by reference therein and all amendments, corrigendum /corrigenda, changes thereto
2.	BSEDC	Bihar State Electronics Development Corporation (BSEDC)
3.	Bidder	The use of the term "Bidder" in the Tender means the single Agency.
`	Bid/Proposal	Offer by the bidder to fulfil the requirement of the Client under the RFP/Contract for an agreed price. It shall be a comprehensive technical and commercial response to the Tender
5.	Confidential Information	All information (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of each stakeholder and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement).
6.	Client	Patna High Court
7.	Department	Home Department, Government of Bihar.
8.	Deliverables	Products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RFP for Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines (such as security related, etc.), inter alia payment and/or process related etc., source code and all its modifications.
9.	Go-Live	The date of commencement of Operations and Maintenance phase after the successful completion of Phase I and Phase II.
10.	Performance Security	Unconditional guarantee provided by the Bidder from a Nationalized/Scheduled Bank in favor of the BSEDC for 10% of the Contract value.
11.	Project Implementation	Project Implementation as per the testing standards and acceptance criteria prescribed by BSEDC or its nominated agencies/consultant.
12.	Request for Proposal/ Tender Document	Written solicitation that conveys to the Bidder, requirements for products/ services that the BSEDC intends to buy and implement
13.	SLA	The level of service and other performance criteria which will apply to the Services delivered by the Bidder; Performance and Maintenance SLA executed as part of this Master Service Agreement;
14.	Successful Bidder	The bidder who is qualified & successful in the bidding process and is given the award of Contract and will be referred to as System Integrator (SI)/Implementation Agency.
15.	Warranty	Warranty is for a period of 5 years from the date of 'Go-Live'

3. Schedule of Bid Process

Sl. No.	Information	Details
1.	RFP No. and Date	BSEDC/3968 /2021 Dated 03.08.2021
2.	RFP Sale Date	09.08.2021
3.	Last date of submission of queries to nodal officer on mail for clarifications/pre bid	12.08.2021 5PM
4.	Date of pre-bid conference	13.08.2021 11:30 AM online. Link will be shared by the contact person.
5.	Last date (deadline) of submission of bids online	02.09.2021 5 PM
6.	Opening of General cum technical Bids	03.09.2021 5 PM
7.	Opening of Financial bid	Will be intimated later
8.	Bid validity period	180 days from the last date (deadline) for submission of proposals
9.	Non-Refundable Tender Fee/ Cost	INR. 5000 only (Rupees Five thousand only) payable online through e-payment mode i.e. NEFT/RTGS/Credit Card/Debit Card on www.eproc2.bihar.gov.in site.
10.	Tender Processing Fee	INR 5,000 only (non-refundable) plus GST through e-payment mode i.e. NEFT/RTGS/Credit Card/Debit Card on www.eproc2.bihar.gov.in
11.	Earnest Money Deposit (EMD/Bid Security)	INR 30,000,00 only (Rupees Thirty Lakh only) through online payment in eproc2 site by Bank Guarantee with six months validity from a scheduled bank in India and payable at Patna in favor of BSEDC.
12.	Contact person for pre-bid queries	Kailash Pati Mishra BELTRON Bhawan, Shashtri Nagar, Patna, Bihar. Tel No:- 0612-2281242, Fax No: - 0612-2281857 E-mail: k.mishra@semt.gov.in
13.	Addressee and address at which proposal or any supporting/original bank guarantee etc. in response to RFP notice is to be submitted	Managing Director BSEDC Ltd, BELTRON Bhawan, Shashtri Nagar, Patna, Bihar Tel No:- 0612-2281242, 0612-2281857

- The Bidding process shall be conducted in an online (e-tendering) manner. Please visit www.eproc2.bihar.gov.in for further details regarding the e-Tendering process.

- All the clarifications / corrigendum to the queries, notification & details terms and conditions regarding, this tender notice hereafter will be published online on website www.beltron.in or www.eproc2.bihar.gov.in

4. Background

Patna High Court was established on 9 February 1916 and was later affiliated under the Government of India Act, 1915. Home department Government of Bihar has taken the initiative to implement CCTV surveillance & Public Address system for enhancing the Security of Patna High Court with the objective of providing security from internal and external threats. To achieve the same, Patna High Court intends to install 24X7 CCTV Surveillance & Public Address system with a control room for closely monitoring and accomplishing requirements of Security and Surveillance with state of art technology along with video analytics. The detailed objective that will be met are:

- Keep a tab of visitors and their movement in Patna High Court premises.
- Monitor and control cases of theft and pilferage
- Close monitoring and improved response time to exigencies

The project is to be implemented in response to the recent increase in the unlawful and socially disturbing activities in and around the court premises. The unlawful activities mainly affect the day-to-day proceedings of the court, security of the court officials and other citizens present in the court premises, security of the prisoners brought to court for proceedings, police personnel present and security of the judges. It would be helpful to monitor the complete court premises from a single control room to be set-up inside the court premises. CCTV would enable to track and arrest miscreants and anti-law entities accessing the court premises.

5. Project Goals & Functional Objective

Patna High Court sought to upgrade their video surveillance solution to improve image quality and retention time. They also wanted to maximize field of view to deliver a more forceful and expansive – yet, less intrusive – solution. The unlawful activities mainly affect the day-to-day proceedings of the court, security of the court officials, lawyers and other citizens present in the court premises, police personnel present and security of the judges.

Following are the functional objectives identified for the proposed system.

1)24X7 Monitoring of High Court premises through CCTV Surveillance & Public Address system - The primary objective is to have a complete coverage of the area with an extensive network of CCTV cameras. It is desired that the entire court premises should not have any blind spots. However, there are practical and operational challenges to having zero blind spots, the same can be addressed during installation of the cameras.

2)Perimeter Protection: The Patna High Court is surrounded by densely populated areas, college campus etc. The court authority is faced with a herculean task of maintaining the integrity of the wall which is breached at several places and from which anti-social elements intrude into the court and carry out their dubious activities. To add to this problem the road that runs adjacent to the wall is frequently used by people that come into the court and has heavy vegetation running along it is affording enough cover to people who wish to intrude into the court premises. With complete coverage of court perimeter with CCTV, it is envisaged that monitoring and management of court and the activities can take place more effectively, efficiently and in a more coordinated manner. CCTVs are expected to become the extended arm for the security to help and take the burden of 24x7 manual guarding of the court premises. The entire project will be implemented in two Phase:

6. List of key locations

Location Type	Location Details
Gates	▪ Entrance/ Exit gate No. 1 to 5
Perimeter/ Boundary	▪ Perimeter from Gate No. 1 to Gate No. 2 facing Bailey Road ▪ Perimeter from Gate no 2 to Gate no 3 facing LN Mishra College

Location Type	Location Details
	▪ Perimeter from Gate no 3 to water tank corner inside the court premises ▪ Perimeter from Water Tank corner side to Gate no. 4. ▪ Perimeter from Gate no 4 to Gate no. 5 to the back side of High Court Extension Building perimeter ▪ Perimeter from Gate no. 5 to Gate no. 1
Inside Roads	▪ Gate no 3 to Gate No. 4 Road inside High Court premises ▪ Gate no 1 to Hospital road inside High Court ▪ Hospital to Railway Reservation counter Back Side Road inside High Court ▪ Hospital to Railway Reservation counter Back Side Road inside High Court ▪ Canteen to New Building Parking entry road inside High Court
Parking Space	▪ Gate no 3 left and right side public car parking space two-wheeler parking space ▪ Behind CMC building judges parking space ▪ New building underground Judges parking space ▪ Between office Building two-wheeler parking space ▪ Behind reservation two-wheeler parking space ▪ Opposite CO office entrance two-wheeler parking space ▪ Two-wheeler parking space near CMC building and substation
Open Public Space	▪ Canteen, open ground area, hospital, quarter and other office building entry and exit gates
Old High Court Building	▪ Corridors, entry and exit gate
New High Court Building	▪ Corridors, entry and exit gate
Office Building Block	▪ Corridors, entry and exit gate
CO Office Building	▪ Corridors, entry and exit gate
Post Office/ SBI Building	▪ Indoor Corridors

7. Project Stakeholders

Sl. No	Stakeholder	Roles and Responsibilities
1.	Patna High Court and Department of Law	Location finalisation; Necessary permissions;
2.	Building construction department	Completion of Phase 2 building
3.	Bihar Home Department	Budget allocation and necessary permissions and approvals
4.	Bihar Police Department	Finalization of camera locations during site survey, provide proper support and infrastructure for system deployment, Proper upkeep of system installed, operation and necessary permissions & approvals
5.	Bihar State Electronics Development Corporation (BSEDC)	RFP approval, Vendor selection, Project implementation, Monitoring, Release of Payment

6.	Project Management Consultant	System requirement analysis, System design, RFP Preparation, Bid Management, SI Selection, and Project Management with required recommendation.
7.	System Integrator (SI) – To be selected	Supply, Installation, Testing, Commissioning and Maintenance

8. Approval of Deliverables

Sly no	Document/ deliverable	Signoff authority
1.	Project Plan	BSEDC
2.	Site Survey report	BSEDC
3.	Approved Bill of Material	BSEDC
4.	Proof of Delivery	BSEDC
5.	Installation certificates	BSEDC
6.	Technical Architecture	BSEDC
7.	SLA reporting	BSEDC
8.	Project MIS	BSEDC
9.	SOPs for site preparation, electrical and civil works, permission for digging, store room provisioning and safety of equipment.	BSEDC consultant
10.	Resource attendance	Court officials and or BSEDC

9. Responsibility Matrix

The roles of the stakeholders shall change over a period as the project will evolve from design to implementation and enter the operations phase. Stakeholders' responsibilities, illustrative organizational structure for the design & implementation phase, operational phase is given below:

Various Stakeholders identified for Patna High Court CCTV Surveillance & Public Address system Project are as below:

HD Home Department
HC Patna High Court
NA BSEDC (Nodal Agency)
Con Project Management Consultant
SI Systems Integrator (Vendor selected for the Project's Implementation)

Responsibilities are shown using RACI Matrix which splits project tasks down to four participatory responsibility types that are then assigned to different Stakeholders in the project.

R (Responsible)- Those who do work to achieve the task
A (Approver)- The Stakeholder that ultimately approves the task
C (Consulted)- Those whose opinions are sought (2-way communication)
I (Informed)- Those who are kept up to date on progress (1-way communication)

#	Activity	HD	HC	NA	Con	SI
1.	Signing of the Contract	A	I	R	C	**R**
2.	Preparation of the Inception Report	I	A	A	C	**R**
3.	Integrated Plan for the Design & Implementation of the Entire System	I	C	A	C	**R**

#	Activity	HD	HC	NA	Con	SI
4.	Prepare the Site Survey Plan and conduct site survey	C	I	I	C	**R**
5.	Finalize the actual location of camera in consultation with all stakeholders (the detailed plan for Camera Connectivity with System and network design)	I	R	I	C	**R**
6.	Prepare Detail Design, Detail Block diagram, Detail Electrical & Communication connectivity planning drawing, FRS, SRS documents including monitoring and control room.	I	C	I	C	**R**
7.	Submission of the Partial Acceptance Testing & Final Acceptance Testing formats	I	C	A	C	**R**
8.	Design, Supply, Installation, Testing & Configuration and Commissioning of various equipment, components and software systems and all related Civil & Electrical works.	I	A	I	C	**R**
9.	Preparation of the Access Policy Documents for Use & Operations of the CCTV Surveillance & Public Address system based on final FRS & SRS.	A	A	A	C	**R**
10.	Guideline document / manual to standardize file formats, compression types, interfaces, to be used by various agencies concerned with video / photograph recording & storage.	A	A	I	C	**R**
11.	Guidelines for video data handling for submission of the video data to judiciary as legal evidence	A	A	A	C	**R**
12.	Training and Capacity Building for the Police Department for operation of the system	I	A	I	I	**R**
13.	Partial Acceptance Testing & Final Acceptance Testing of IT & Non-IT Equipment	I	C	A	C	**R**
14.	Planning, Suggesting and Submitting the Surveillance System up-grade plan(s) for five years from the date of acceptance along with detailed specifications	A	C	I	C	**R**
15.	System Documents, User Documents as per ITIL (Information Technology Infrastructure Library) standards, including drawings, which should be in-line with the vision and mission of the project	I	A	I	C	**R**
16.	Providing technically qualified manpower for installation , commissioning till Go-Live followed by maintenance of the entire system for 5 years.	I	A	I	C	**R**
17.	On-Site Facilities Management Service	I	A	I	C	**R**
18.	Comprehensive Warranty Maintenance of the supplied equipment	I	A	I	C	**R**
19.	Provision of on-site tools and spares (including all types of cameras, power supply, UPS, Battery, cables and other passive items and accessories).	I	A	I	C	**R**
20.	Provision of Project Manager & Field Engineer(s) for a period of Five years after successful acceptance of the Surveillance system.	I	A	I	C	**R**
21.	Hand-over of the system at the end of contractual period along with all documentation required to operate and maintain the system	A	C	A	C	**R**
22.	Weekly Progress Reports during project execution	I	A	A	C	**R**
23.	Monthly Progress Reports during project execution	I	A	A	C	R

10. Instruction to bidders

10.1 General

1) While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the solution needed to meet the requirements. Bidders and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.

2) All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the BSEDC on the basis of this RFP

3) No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the BSEDC. Any notification of preferred bidder status by the BSEDC shall not give rise to any enforceable rights by the Bidder. The BSEDC may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the BSEDC.

4) This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.

10.2 Compliant proposals /completeness of response

1) Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.

2) Failure to comply with the requirements of this paragraph may render the Proposal non-compliant and the Proposal may be rejected. Bidders must:
   i. Include all documentation specified in this RFP;
   ii. Follow the format of this RFP and respond to each element in the order as set out in this RFP
   iii. Comply with all requirements as set out within this RFP.

10.3 Pre-bid Meeting and Clarifications

BSEDC shall hold a pre-bid meeting with the prospective bidders on the mentioned dates at office of BSEDC. The Bidders will have to ensure that their queries for Pre-Bid meeting should reach to the Nodal officer as per the schedule of bids by email only in editable excel format. Any queries/clarification/letter etc. sent after scheduled timeline will not be entertained.
The responses will be transmitted to the prospective bidders through appropriate means. However, it will be bidder's responsibility that they collect all responses. Non-attendance at the Pre-Bid or pre-RFP Conference will not be a cause for disqualification of a Bidder. The queries should necessarily be submitted in the following format in editable excels. For each bidder and OEM 1 representative is allowed. The representative should be employees of the Bidding Company.

a) BSEDC shall hold a pre-bid meeting with the prospective bidders on the dates mentioned in Section 3 of the RFP at Beltron Bhawan, Shastri Nagar. Patna

b) The Bidders will have to ensure that their queries for Pre-Bid meeting should reach to Shri Kailash Pati Mishra, Manager PMU, BSEDC Ltd, Beltron bhawan shastri Nagar, Patna-23 by email on or before the due date mentioned in the RFP.

c) The queries should necessarily be submitted in the following format:

Sl. No	Page No.	RFP Document Reference(s)	Content of RFP requiring Clarification(s)	Points of clarification/Change request	Justification

BSEDC shall not be responsible for ensuring that the bidders' queries have been received and / or addressed by them. Any requests for clarifications after the indicated date and time may not be entertained by the BSEDC. Also queries other than specified format (in editable excel) will not be entertained by BSEDC.

10.4 Response to Pre-bid queries and issue of corrigendum

The Nodal Officer notified by the BSEDC will endeavor to provide timely response to all queries. However, BSEDC makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does BSEDC undertake to answer all the queries that have been posed by the bidders.

a) At any time prior to the last date for receipt of bids, BSEDC may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum.

b) The Corrigendum (if any) & clarifications to the queries from all bidders will be posted on the https://www.eproc.bihar.gov.in

c) Any such corrigendum shall be deemed to be incorporated into this RFP.

d) In order to provide prospective Bidders reasonable time for taking the corrigendum into account, BSEDC may, at its discretion, extend the last date for the receipt of Proposals.

11. Key Requirements of the Bid

11.1 Right to terminate the process

1) BSEDC may terminate the RFP process at any time and without assigning any reason. BSEDC makes no commitments, express or implied, that this process will result in a business transaction with anyone.

2) This RFP does not constitute an offer by BSEDC. The bidder's participation in this process may result BSEDC selecting the bidder to engage towards execution of the contract.

11.2 RFP Document fees

The bidder may also download the RFP documents from the website https://www.eproc2.bihar.gov.in Tender fee of Rs 10,000.00 as RFP document fees should be submitted online via NEFT/RTGS. The NEFT/RTGS transfer receipt should be submitted Proposals received without or with inadequate RFP Document fees shall be rejected.

11.3 Earnest Money Deposit

a. Bidders shall submit, along with their Bids, single EMD of INR 30,000,00/- (Thirty Lakh only), in the form of a Bank Guarantee (in the format specified in Annexure 3-Form 12 issued by any Scheduled/nationalized bank in favor "Bihar State Electronics Development Corporation Ltd', payable at Patna and should be valid for 6 months from the date of submission of technical bid response. . No interest shall be payable on Bid Security under any circumstance. Bidders can also make the EMD payment through the online at eproc2 site.

b. EMD of all unsuccessful bidders would be refunded by BSEDC within sixty (60) days of the bidder being notified as being unsuccessful. The EMD, for the amount mentioned above, of successful bidder would be returned upon submission of Performance Bank Guarantee as per the format provided in Annexure 3-Form 12.
c. The successful Bidder's Bid security shall be discharged upon the Bidder signing the Agreement.
d. The EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.
e. The bid / proposal submitted without EMD, mentioned above, will be summarily rejected.
f. The EMD may be forfeited in the event of:
   - **I. A Bidder withdrawing its bid during the period of bid validity**
   - **II. A successful Bidder fails to sign the subsequent contract in accordance with this RFP**
   - **III. The Bidder being found to have indulged in any suppression of facts, furnishing of fraudulent statement, misconduct, or other dishonest or other ethically improper activity, in relation to this RFP**
   - **IV. A Proposal contains deviations (except when provided in conformity with the RFP) conditional offers and partial offers.**

11.4 Means of Submission of proposals

The proposals will be uploaded on e-procurement website https://www.eproc2.bihar.gov.in via related instructions contained therein in e-forms.

11.5 Authentication of bids

A Proposal should be accompanied by a power-of-attorney in the name of the signatory of the Proposal.

11.6 Preparation and Submission of Proposal

The bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by BSEDC to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process. BSEDC will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

11.7 Language

The Proposal should be filled by the Bidder in English language only. If any supporting documents submitted are in any language other than English, translation of the same in English language is to be duly attested by the Bidders. For purposes of interpretation of the Proposal, the English translation shall govern.

11.8 Venue and deadline for submission of proposal

Proposals, in its complete form in all respects as specified in the RFP, must be submitted to BSEDC via e-procurement website. The last date for submission of proposals is on or before the due date mentioned in Section 3 of the RFP.

11.9 Late Bids

a) Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained.
b) The bids submitted by telex/telegram/fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.
c) BSEDC shall not be responsible for any delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.

d) BSEDC reserves the right to modify and amend any of the above-stipulated condition/criterion depending upon project priorities vis-à-vis urgent commitments.

11.10 Deviations

The bidder may provide deviation to the contents of the RFP document. The deviations need to be given in Form 11 only. Any deviation given at any other place in the proposal will not be considered. BSEDC may at its discretion ask the bidder to withdraw the deviation. However, bidder may or may not agree to withdraw the deviations.

The TCPC would evaluate and classify the deviations as "material deviation" or "non-material deviation". In case of material deviation, the committee may decide to "monetize" the value of the deviations, which will be added to the price bid submitted by the bidder OR declare the bid as non-responsive.
The bidders would be informed in writing on the committee's decision on the deviation, prior to the announcement of technical scores. The bidders would not be allowed to withdraw the deviations at this stage. No correspondence in this matter will be entertained.
In case of non-material deviations, the deviations would form a part of the proposal & contract.

The bidders may use the following deviation chart:

No	Deviation	Material	Non-Material	Impacted Deliverable(s)	Impacted Timeline(s)	Financial Impact
1		<Yes / No>	<Yes / No>	<Name(s) of Deliverables to get affected by the Deviation>	<Effect on Timelines due to the Deviation>	<Value>

12. Evaluation process

1. BSEDC will constitute a TCPC to evaluate the responses of the bidders
2. The TCPC constituted by the BSEDC shall evaluate the responses to the RFP and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.
3. The decision of the TCPC in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of negotiation/ discussion with the Committee.
4. The TCPC may ask for meetings with the Bidders to seek clarifications on their proposals
5. The TCPC reserves the right to reject any or all proposals on the basis of any deviations or clarifications provided.
6. Each of the responses shall be evaluated as per the criterions and requirements specified in this RFP.

12.1 Tender Opening

The Proposals submitted by the due date will be opened on the date prescribed in Section 1 by Tender cum purchase committee, in the presence of such of those Bidders or their representatives who may be present at the time of opening. The representatives of the bidders are advised to carry the identity card or a letter of authority from the tendering firms to identify their bona-fides for attending the opening of the proposal.

12.2 Tender Validity

The offer submitted by the Bidders should be valid for minimum period of 180 days from the date of submission of Tender.

12.3 Tender Evaluation

A. Initial Proposal scrutiny will be held and to confirm Proposals do not suffer from the infirmities detailed below will be treated as non-responsive, if a Proposal is found to have been:
    1. submitted in manner not conforming with the manner specified in the RFP document
    2. Submitted without appropriate EMD as prescribed herein
    3. received without the appropriate or power of attorney
    4. containing subjective/incomplete information
    5. submitted without the documents requested in the checklist
    6. non-compliant with any of the clauses stipulated in the RFP
    7. Having lesser than the prescribed validity period.
    8. Proposals received with optional products

    The EMD of all non-responsive bids shall be returned to the bidders.

B. All responsive Bids will be considered for further processing as below:

BSEDC will prepare a list of responsive bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by a Committee according to the Evaluation process define in this RFP document. The decision of the Committee will be final in this regard.

12.4 Handwritten documents, Erasures or Alterations

The offers containing erasures or alterations will not be considered. There should be no hand-written material, corrections or alterations in the offer. Filling up of the information using terms such as “OK”, “noted”, “as given in brochure/manual” is not acceptable and may lead to the dis-qualification of the Bid.

12.5 Fraud and corruption

BSEDC require that Bidder must observe the highest standards of ethics during the entire process of tendering and during execution of the contract. In pursuance of this policy, The BSEDC define, for the purpose of this provision, the terms set forth as follows:

a. “Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of the Department in contract executions.
b. "Fraudulent practice" means a misrepresentation of facts, in order to influence a procurement process or the execution of a contract, to Department, and includes collusive practice among bidders (prior to or after Proposal submission) designed to establish Proposal prices at artificially high or non-competitive levels and to deprive The BSEDC of the benefits of free and open competition.
c. “Unfair trade practices” means supply of services different from what is ordered on, or change in the Scope of Work which is given by the BSEDC in this Tender.
d. “Coercive Practices” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the execution of contract.

The BSEDC shall reject the Bid proposal for award of contract, if it determines that the Bidder recommended for award, has been found to have been engaged in corrupt, fraudulent of unfair trade practices. Once the contract is signed and if it is noticed that the SI has indulged into the Corrupt / Fraudulent / Unfair / Coercive practices, it will be a sufficient ground for The BSEDC for termination of the contract and initiate black-listing of the Bidder.

13. Rejection criteria

Besides other conditions and terms highlighted in the Tender Document, bids may be rejected under following circumstances:

13.1 General rejection criteria

i. Conditional Bids except for the deviations recorded in the designated section in the proposal as per the format provided in this RFP
ii. If the information provided by the Bidder is found to be incorrect / misleading / fraudulent at any stage time during the Tendering Process
iii. Any effort on the part of a Bidder to influence the bid evaluation, bid comparison or contract award decisions
iv. Bids without signature of person (s) duly authorized on required pages of the bid;
v. Bids without power of attorney/ board resolution.

13.2 Pre-Qualification rejection criteria

i. Bidders not complying and submitting proof documents with the Eligibility Criteria given in this RFP.
ii. Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive or clarification sought by BSEDC is not adequately addressed and complied by the bidder;

13.3 Technical rejection criteria

a. Technical Bid containing commercial details;
b. Revelation of Prices in any form or by any reason before opening the Commercial Bid;
c. Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect;
d. Bidders not quoting for the complete scope of Work as indicated in the Tender Documents, addendum (if any) and any subsequent information given to the Bidder;
e. Bidders not complying with the Technical and General Terms and conditions as stated in the Tender Documents;
f. Bidder not submitting technical proposal with all required details as per Section 20.2 Technical Evaluation Criteria.
g. The Bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope of work and Service Level Agreements of this tender.
h. Each bidder should offer/ quote single make and models against all items. Bidder quoting multiple make and models in their technical bid will lead to rejection.
i. MAF for any item by OEM not in as per RFP specified format or with any additional clause/terms mentioned by the OEM in MAF.

13.4 Commercial Rejection Criteria

i. Incomplete Price Bid.
ii. Price Bids that do not conform to the Tender's price bid format;
iii. If there is an arithmetic discrepancy in the commercial Bid calculations the BSEDC may consider rectifying the same. If the Bidder does not accept the rectification then their bid may be rejected.

14. Licensing

i. The Implementing Agency will follow the following licensing conditions:
ii. The SI shall procure the licenses of the third-party software in accordance with its procedures by payment of applicable license fees on behalf of Bihar Police/BSEDC. The licenses thus procured would be

in the name of Bihar Police. The SI shall ensure that third party vendors provide standards based customer interface and also takes into account other factors like regular updates and support etc.

iii. The SI should provide adequate licenses for all the modules mentioned in the scope so that all users can access their respective functionalities as per their role without any constraints.

iv. All licenses should be either supported by OEMs/subscription providers for entire contract period.

v. All the aforesaid products should have a roadmap for updates and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the SI for the contract period.

15. Clarifications

If deemed necessary, BSEDC may seek clarifications on any aspect from the bidder. However, that would not entitle the bidder to change or cause any change in the substance of the tender submitted or price quoted. BSEDC may, if so desire, ask the bidder to give a presentation for the purpose of clarification of the tender. All expenses for this purpose, as also for the preparation of documents and other meetings, will be borne by the bidders.

16. Preliminary Examination

BSEDC will examine the bids to determine whether they are complete, whether required bid security has been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

Bids from agents without proper authorization from the manufacturer shall be treated as non-responsive.

A bid determined as not substantially responsive will be rejected by BSEDC and may not subsequently be made responsive by the bidder by correction of the non-conformity.

BSEDC may, if necessary, waive any minor informality or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any bidder.

17. Consortium or Association

Participation through Consortium or associations of companies is not allowed. The definition of consortium and joint ventures does not include any tie-up with OEMs on company's own account.

18. Concessions permissible under statutes

Bidder, while quoting against this tender, must take cognizance of all concessions permissible, if any, under the statutes and ensure the same is passed on to the BSEDC, failing which it will have to bear extra cost. In case Bidder does not avail concessional rates of levies any applicable tax/duties, etc. BSEDC will not take responsibility towards this. However, The BSEDC may provide necessary assistance, wherever possible, in this regard.

19. Criteria for Evaluation

20.1 Pre-qualification / Eligibility criteria

The bidder must meet the following pre-qualification requirements to become eligible for the Technical & Commercial Evaluation.

Sr. No.	Qualification Criteria	Evidence Documents/Information to be provided
1.	The responding firm/agency	(a) Cost of tender document must be submitted through E-payment only; else bid will be summarily rejected.

	(a) Should have made a payment of INR.5,000.00 (Rupees ten thousand) (non- refundable) for the Tender Fee.	(b) EMD should be in favor of "Bihar State Electronics Development Corporation Ltd' Payable at Patna and issued by any scheduled / nationalized bank in the form of a original bank guarantee. Bidders can also deposit the EMD through online payment in state e-procurement site.
	(b) Should have submitted single EMD of INR. 30,000,000.0 (Rupees Thirty Lakh only)	
2.	Legal Entity	a) Copy of Certificate of Incorporation
	The Company should be in the IT/ITES/ Surveillance business for at least 5 (five) years as of 31st March 2020 and should be registered under Companies Act, 1956	b) Copy of Registration Certificate
	Registered with the GST and Provident Fund authorities in India	c) Form 2 :- "Particulars of the Bidder"-
		Copy of all documents listed above should be attested by authorized signatory and must be submitted along with the response
		a) Copy of PAN Card
		b) Copy of GST Certification
		c) Copy of EPF and ESI Registration
		Copy of all documents listed above should be attested by authorized signatory and must be submitted along with the response
3.	The Net Worth of the bidder must be positive for the last 3 financial year(FY 17-18, FY 18-19, FY 19-20)	Separate Chartered Accountant Certificate for positive Net worth for bidder mentioning net worth of each year.
4.	The bidder must not be blacklisted by any Government/Public Sector organization /department in India at the time of submission of the response to this RFP for last 3 years (FY 17-18 & FY 18-19, FY 19-20)	A declaration as per the format prescribed in Form - "Declaration that the bidder has not been blacklisted" to be given by the authorized signatory of the responding firm and consortium partner (if any) separately – Annexure – 3, Form 6
5.	Bidder's Average annual Sales Turnover must be **INR 40 Crores** or above or Cumulative turnover of **120 Cr** for the last 3 audited financial years	Audited accounts of the company as filed before the Registrar of Companies. In case the breakup of revenues is not available in the manner required in the audited Balance Sheet, the Bidder shall submit a certificate to this effect from the statutory auditor of the company/CA of the company.
	In case Bidder is a wholly owned subsidiary, the financial experience of Parent company would be considered for eligibility, provided the parent company operates in India. In that case Parent company needs to provide an undertaking that the parent company will take complete responsibility of the project.	
6.	The Bidder should have **successfully completed and running** at least 1 Single location similar IP CCTV Surveillance projects of 3**00 IP cameras** or **2 projects of 200 IP CCTV cameras or 3 Projects 100 IP CCTV cameras** each for Government/PSU/ Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years **Definition of Similar Project:** IP CCTV Surveillance project with IP cameras. Note: Any large ongoing project with work order issue date before 31st December 2019 PAT/FAT/SAT	Client certificate/FAT/Go-Live certificate and mandatory **Client satisfactory performance certificate** from competent authority with contact details, dates, project name, camera quantity, project details etc. of mentioned for validation.

	certificate/ declaration from client clearly mentioning Go-Live IP CCTV camera quantity details may be considered as successfully completed project reference.	
7.	The Bidder must have successfully completed and running similar projects for Government/PSU/ Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years) the following criteria- Total number of IP CCTV cameras installed in the last **5 years>=1000.** Note: Any large ongoing project with work order issue date before 31st December 2019 and PAT/FAT/SAT certificate/ declaration from client clearly mentioning Go-Live IP CCTV camera quantity details may be considered as successfully completed project reference.	Ref format: Form 14:- "Project Citation Format" supported with Work order or Purchase Order (PO) or Letter of Intent (LoI) and **Proof of Go-live, Client satisfactory certificates signed by the authorized official from client mentioning the scope of work and project value.** BSEDC may check the authenticity of the documents provided by the bidder.
8.	The bidder must have successfully completed and running IP CCTV projects for Government / PSU/ Nationalized Bank/Large Enterprise(Listed company with 1000 Cr. Turnover in India for last 3 financial years) any one of the following criteria: 1 order of value >=**14 crore.** OR 2 orders each of value >=10 crore OR 3 orders each of value >=7 crore. Similar projects mean Security Surveillance projects involving IP CCTV camera and LAN-WAN works installation and maintenance. Any large ongoing project with work order issue date before 31st December 2019 and PAT/FAT/SAT certificate/ declaration from client clearly mentioning Go-Live details BOQ may be considered as successfully completed project reference.	Ref format: Form 14:- "Project Citation Format" supported with Work order or Purchase Order (PO) or Letter of Intent (LoI) and Proof of Go-live/ Project completion/Client satisfactory certificates
9.	The bidder shall have ISO 9001 :2015, and ISO 27001:2013 certification.	Copy of valid certificate as on date of bid submission to be provided.
10.	The bidder must have at least 50 IT professionals (B.E/B.Tech/MCA/BCA/Diploma Engineer) on their direct payroll as on date of bid submission. 2 number of Minimum Graduates with Project Management certificate from Govt. institute and 5 Engineers with Networking OEM certification.	Certificate/Declaration from HR Department for number of IT professionals employed by the company with name, qualification, Copy of certificate and PF/ESI number on letter head.
11.	The bidder should have direct authorization from the Original Equipment Manufacturer (OEM) for SITC and supporting the equipment offered. Mandatory to submit MAF from OEMs against all items under Annexure 1 of the RFP except Electrical equipment and furniture.	Refer: Form: - "Manufacturers'/Producers' Authorization Form" for the MAF and complete the associated table provided with the form.– Annexure – 3, Form 3**.** If the MAF is not in RFP specified format, then BSEDC may reject the bid.
12.	Bidder should have office/GST Registration in Bihar. Alternatively, if the bidder doesn't have an office/GST registration in Bihar, then they have to furnish an undertaking that an office/GST registration would be established in Bihar, within 1 (one) month of signing the contract, to provide O&M support for entire project period.	A self-certified declaration by the authorized signatory of the bidder should be submitted along with the proposal.

13.	Signing authority(All bidder documents to be signed by authorized person only failing which bid may be rejected)	Separate "Copy of Board resolution" or POA for bidder authorizing the person to sign on behalf of the company or Power of Attorney for the designated person to be provided as per the format prescribed in Form "Bidder's Authorization Certificate". (Must be on a Non-Judicial INR 100/- Stamp Paper)"

Note: Last 3 consecutive audited financial years before 2017-2018 will not be considered for evaluation and the bid will summarily be rejected.

- **Any organization debarred / black-listed by Central / State Government/PSU/Nationalized Banks in India, at the time of submission of the RFP, shall not be allowed to participate in this tender. Bidder need to submit a self-certification in this regard.**
- **Sub-contracting / out sourcing would be allowed only for work like-**
    - **Passive Networking & Civil Work during implementation**
    - **FMS staff for non-IT support during implementation**

20.2 Technical Evaluation Criteria

Prior to the detailed evaluation of the Technical Bids, BSEDC shall determine whether each bid is
(a) complete,
(b) is accompanied by the required information and documents and
(c) is substantially responsive to the requirements set forth in the RFP documents.

BSEDC has formed a Technical Committee, which will evaluate both technical & commercial bids received in response to this RFP. The findings of the said Committee and subsequent decision of State Government shall be final and binding on all the bidders. Only those bidders, who fulfill all the criteria / requirements mentioned in the bid, shall be eligible and qualified for technical scrutiny as per the Evaluation Framework given below.
BSEDC may in its sole discretion, waive any informality or non-conformity or irregularity in a Bid Document, which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder.

I. The overall objective of this evaluation process is to select the capable and qualified firm to Supply, Installation, Testing, Commissioning and Maintaining the IP based CCTV Surveillance & Public Address system Project for Patna High Court.
II. The technical score of all the bidders would be calculated as per the criteria mentioned in the following sections. All the bidders who achieve min. 80 (out of 100 marks) or more marks in the technical evaluation would be eligible for the next stage, i.e. Demonstration of Products and Solution.
III. However, in case of 3 bidders not scoring 80 or more marks, then cut off marks may go down up to 70 marks till top 3 bidders are shortlisted for next level. Bidders who score below 70 marks shall not be eligible for getting marks in next stage.
IV. Now among the top three (3) Bidders (as per scoring process as detailed above) there are one or more Bidders scoring the same score, then all such Bidders will be eligible for next stage of bidding
V. Proposals of Companies would be evaluated as per Technical Evaluation Criteria. Bidders should clearly indicate, giving explicit supporting documentary evidence, with respect to the below, in absence of which their proposals will be rejected summarily at the qualification stage itself.
VI. By submitting a bid for the tender, the bidder implicitly agrees to the above conditions.

A detailed evaluation of the bids shall be carried out in order to determine whether the bidders are competent enough and whether the technical aspects are substantially responsive to the requirements set forth in the RFP. Bids received would be assigned scores based on the parameters defined in table below.

S. No	Aspect	Evaluation Criteria	Description	Max. Marks	Supporting Documents Required
1	Financial Strength	Average annual Sales turnover/Cumulative Sales Turnover of the bidder in the last 3 audited financial years	**Average Turnover** a. >=40 Crores - 8 Marks b. >40 Crores and <=65 Crores -12 Marks c. >65 Crores and <=90 Crores – 16 Marks d. >90 Crores - 20 Marks Or OR Cumulative Turnover a. >120 Crores and <=180 Crores - 8 Marks b. 180> Crores and <220 Crores - 12 Marks c. >220 Crores and <250 Crores – 16 Marks d.>250 Crore-20 Marks	20	Audited Balance sheets and certificate from CA
2	Past Experience	Technical Capability in executing & managing large IP Based CCTV Surveillance & Public Address system projects for Government / PSU / Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years) in India	Total Number of **CCTV** cameras implemented in last 5 years as per pre-qualification terms (Work order copy to be submitted) a.>=1000 cameras as per pre-qualification terms -5 marks b. For every 200 cameras more- 5 marks	15	Project citation highlighting the mentioned activities supported by Work order/Agreement/Client Certificate
		Each Project order value-	>=6 Crores – 5 Marks per project(Maximum 15 Marks)	15	Project citation highlighting the mentioned activities supported by Work order/Agreement/Client Certificate
3	Specific Experience	At least 1 similar single location IP CCTV Surveillance projects of 300 cameras	a.= 300 Camera- 5 Marks b. For every 100 cameras more 5 Marks	15	All order reference and Go-Live certificate to be submitted.
4	Presence in Bihar	Presence in Bihar	a. Only have GST Registration in Bihar- 2 marks. b. Involved in a running Govt. project in Bihar but doesn't have an office/GST Registration in Bihar- 3 marks	5	Project citation highlighting the mentioned activities supported by Work order/Agreement/ Client Certificate &

			c. Involved in a running Govt. project in Bihar and also have an office and GST Registration in Bihar - 5 marks		Copy of Registration Certificate as proof of presence in Bihar (if applicable)
5	Fulltime Deployment Resource Criteria for entire duration of the contract	Project Manager (1)	Must have >=08 years **of post-qualification (Graduation) work experience in ICT infrastructure project management/execution/consultancy.**	10	Detailed CV in given format along with copy of all certificates.
			Qualification:		
			• Regular BE/B. Tech(in IT/CS/ECE/Electrical/Electronics) / Regular MCA **and** Regular MBA/**2 Year PGDBM = 5 Marks**		
			Or		
			Only BE/B. Tech in IT/CS/ECE/Electrical/Electronic or Regular MCA= 3 Mark. Or		
			Only Diploma Eng. /Graduate with min 8 years of relevant experience-2 Mark		
			Certification:		
			CCNP/ITIL 4/PMP/Prince 2/**Equivalent Project Management Certificate from Govt. institute**		
			= 2 Marks		
			Project Experience:		
			Managed Surveillance projects with the similar scope of work and Operation & Maintenance for at least 1 year.		
			Experience of each project 1 marks. Maximum 3 marks		
6	Understanding	Technical Proposal	Detail technical proposal including following.	20	Technical Proposal with cover letter, declaration and other proposed solutions on letter head of bidder and OEMs. **Hard copy of technical proposal also to be submitted by the bidder at BSEDC.**
			a. Itemized breakup of unpriced BOQ/BOM for each solution from OEMs (Should not be the RFP BOM). **1 Marks**		
			b. Indicative Camera coverage drawing, SLD,HLD and inside junction box connection plan. **2 Marks**		
			c. Proposed VMS and VA solution details. **2 Marks**		
			d. Server, VM, Storage sizing with detail breakup and justification. **1 Marks**		
			e. Public address system. **2 Marks**		
			f. Project execution plan**. 3 Marks**		

			g. Onsite direct OEM installation commissioning support plan and declaration from OEMs. **1 Marks**		
			h. Proposed resource for installation and commissioning. **2 Marks**		
			i. Proposed O&M Plan and **1Marks**		
			j. Qualitative assessment based on Demonstration of understanding of the Projects objectives and requirements through providing:		
			−Solution proposed and its components,		
			− Technologies proposed **2 Marks.**		
			−Scale of similar implementation,		
			− Understanding of Issues faced in similar projects		
			−Challenges likely to be encountered		
			− Mitigation proposed		
			−Support methodology		
			−Completeness and responsiveness: The extent to which the proposal responds exhaustively to all the requirements of all the Terms of Reference. **2 Marks**		
			k. Qualitative assessment based on − The extent to which the Systems Implementer's approach and work plan responds to the objectives indicated in the Statement/Scope of Work**. 1 Marks**		

Note: - In absence of any of the above document BSEDC will summarily reject the bid. The technical score of all the bidders would be calculated as per the criteria mentioned above. All the bidders who achieve minimum 80 (out of 100 marks) or more marks in the technical evaluation would be eligible for the next stage. Bidders who will score less than 70 marks will not be eligible for opening of financial bid.

19.2.1 Financial bid evaluation

a. The Financial Bids of technically qualified bidders will be opened. All the bidders who will achieve 80 or more marks in the technical evaluation would be eligible for the next stage, i.e. Financial Bid opening. However, in case of 3 bidders not scoring 80 or more marks, then cut off marks may go down up to 70 marks till top 3 bidders are shortlisted for next level. Bidders who score below 70 marks shall not be eligible for next stage.
b. Now among the top three Bidders (as per scoring process as detailed above) there are one or more Bidders scoring the same score, then all such Bidders will be eligible for next stage of bidding.
c. Bidder quoting the lowest price (L1) will be declared as the successful bidder. The lowest evaluated bid price will be the sum total of lowest quoted CAPEX & OPEX cost inclusive of applicable taxes.

d. In the event that there are 2 or more bidders have offered the same lowest Evaluated Bid Price, the bidder securing the highest technical score will be adjudicated as the "Best responsive bid" for award of the Project. The successful Bidder would be awarded the letter of Intent followed by Work Order (s).
e. In case more than one Bidder have offered the same lowest Evaluated Bid Price and they have the same technical score, BSEDC will determine the Successful Bidder out of such Bidders in a manner as considered appropriate by BSEDC and his decision in this regard shall be final and binding on all Bidders.
f. In the above process, if there are only two eligible Bidders scoring qualifying marks, BSEDC reserves the right to go ahead with Commercial Bid evaluation with those two Bidders only.
g. Costs of capital investments quoted in the project should not exceed more than 70 (Seventy) percent of total costs of the fixed scope of the project. In case the bidder quotes higher figures towards capital costs the same shall be restricted to 70 (Seventy) percent and the balance shall be made a part of Quarterly OPEX payments. Accordingly all the module/ schedule of CAPEX cost will be reduced proportionately.
h. In financial bid evaluation if L1 bidder does not agree or found qualified to take order then subsequently L2 and L3 will be given chance to execute the order provided they matches the L1 bidders price.
i. Any figures (price) if left blank by the bidder in Financial e-form will be taken '0' (zero) by BSEDC. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".
j. Financial Bids that are less than 50% of the average bid price will be disqualified (the average bid price is computed by adding all Financial Bid values of ALL the qualified bidders and dividing the same by the number of bidders).
k. Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.
l. In the event the bid composite bid scores are 'tied', the bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project.

19.2.2 Opening of Offers

Offers received within the prescribed closing date and time will be opened in presence of bidder representatives (who choose to attend the opening of tender), on the date, time & at the address communicated separately to all the bidders who have purchased the RFP documents. The vendor's representatives present shall sign a register of attendance. The dates for opening of Technical would be communicated subsequently, as and when the Pre-qualification scrutiny is completed. Vendors would be given sufficient notice to make technical presentation with respect to the Evaluation Framework and their proposed solution. Duration of the presentation would be about 1 hour.
Vendors who qualify in the Technical Evaluation will be informed of the location, date, and time set for opening of financial proposals.

19.2.3 Clarification of Offers

To assist in the scrutiny, evaluation and comparison of offers, BSEDC may, at its discretion, ask some or all vendors for clarifications with regards to their offer. The request for such clarifications and the response will necessarily be in writing (by letter / fax / email). Failure of a Bidder to submit additional information or clarification as sought by BSEDC within the prescribed period will be considered as a non-compliance and the proposal may get evaluated based on the limited information furnished along with the bid proposal.

19.2.4 Right to Accept Any Offer and to Reject Any or All Offers

BSEDC, reserves the right to accept or reject any tender offer, and to annul the tendering process and reject all tenders at any time prior to award of control, without thereby incurring any liability to the affected vendor(s) or any obligation to inform the affected vendor(s) of the grounds for such action.

19.2.5 Notification of Award

BSEDC will notify the successful Bidder via letter / fax /email of its intent of accepting the bid. Within 7 days of receipt of the Letter of Intent issued by the BSEDC, the successful Bidder shall be required to sign the LoI and return the same to the address specified above as a token of acceptance of the LoI.

19.2.6 Performance Guarantee

As a condition precedent to execution of the Agreement, the successful Bidder shall ensure submission of the requisite unconditional irrevocable Bank Guarantee, in the prescribed format within 15 days of receipt of the LoI as a Performance Guarantee for the services to be performed under the resultant Agreement. The Bank Guarantee shall be equivalent to 10% of the total Order value must be issued by a Nationalized Bank/Scheduled Bank. The Performance Guarantee shall be valid for the term of the resultant Agreement, and shall be renewed and maintained as necessary by the SI for the term of the resultant Agreement, and extensions if any.

Earnest Money Deposits (EMD) of all unsuccessful bidders would be refunded by BSEDC within sixty days (60) of the bidder being notified as unsuccessful. EMD of the successful Bidder shall be returned on successful execution of the resultant Agreement.

The Performance Guarantee may be liquidated by the BSEDC as penalty / liquidated damages resulting from the System Integrator's (SI) failure to complete its obligations under the resultant Agreement. The Performance Guarantee shall be returned by BSEDC to the vendor within 90 days of the term/expiration of the resultant Agreement after applicable deductions as per the Agreement, if any.

19.2.7 Signing of Contract

Subsequent to BSEDC's notification to the successful Bidder by way of a LoI, acceptance of the LoI and submission of the Performance Guarantee, the successful Bidder shall execute the Agreement with the BSEDC. Failure of the successful Bidder to furnish the Performance Guarantee or execute the Agreement within 15 days from issue of LoI shall cause the EMD of the successful Bidder to be liquidated. In such event, BSEDC shall negotiate with the next eligible bidder. The successful Bidder will be liable to indemnify BSEDC for any additional cost or expense, incurred on account of failure of the successful Bidder to execute the Agreement. LoI will be issued to bidder on basis of L1 value and RFP BOQ. However final BOQ and order value may vary after site survey which shall be acceptable by the bidder. Thus, work order shall be issued based on the final order value and BOQ only.

Notwithstanding anything to the contrary mentioned above, the BSEDC at its sole discretion shall have the right to extend the timelines for execution of Agreement on the request of the successful Bidder, provided the same is bona fide. The Draft Agreement between BSEDC and the Successful Bidder will be shared before the bid submission date.

19.2.8 Concessions permissible under statutes

Bidder, while quoting against this tender, must take cognizance of all concessions permissible, if any, under the statutes and ensure the same is passed on to the Purchaser, failing which it will have to bear extra cost. In case bidder does not avail concessional rates of levies like customs duty, excise duty, GST etc. BSEDC will not take responsibility towards this. However, BSEDC may provide necessary assistance, wherever possible, in this regard.

19.2.9 Taxes

The bidders need to include all the taxes in their financial bid at the rates applicable at the time of bidding. Any change in tax component needs to be passed on to the BSEDC in bidirectional manner.

19.2.10 Right to vary the scope of the work at the time of Award

The Purchaser reserves its right to make changes to the scope of the work at the time of execution of the resultant Agreement. If any such change causes an increase or decrease in the cost of, or the time required for the SI's performance of any part of the work under the resultant Agreement, whether changed or not changed by the order, an equitable adjustment (if required) shall be made in the Contract Value or time schedule, or both, and the Agreement shall accordingly be amended. Any claims by the SI for adjustment under this Clause must be asserted within thirty (30) days from the date of the SI's receipt of the BSEDC changed order.

Bidders may start procurement of Active items based on LoI to adhere project timeline and SLA terms. LoI will be issued based on RFP bill of material. However final work order will be issued based on BOQ finalized after site survey. Thus, variation in quantity and final order value should be acceptable by the bidder. By participating in the bid the bidders are explicitly agreeing to this condition.

20. Scope of work

The selected Systems Integrator (SI) shall have the overall responsibility to supply, install, commission, and maintain the Court Surveillance System for state of Bihar. SI will have to maintain the implemented system for a period of five (5) years from the date of successful Go-Live of the project.

The scope of work of the project includes setting up of a CCTV Surveillance& Public Address System for Patna High Court. The scope of SI can be divided in following broad aspects.

Once selected and awarded with the project the system integrator will do the followings as part of their contract terms and conditions. Brief scope of work of the implementation agency is to implement the following security solutions.

- Perimeter CCTV Surveillance
- General surveillance system
- Public Address System
- CCTV Monitor and Control Center
- Dedicated OFC backbone network for CCTV surveillance system

21.1 Brief Solution Scope

#	Solution Location	Type Solution
1.	Perimeter Security	▪ Perimeter CCTV Surveillance System
2.	General surveillance system	▪ Court Premises Open Area, Public Places, Roads CCTV Surveillance System ▪ Inside Building CCTV Surveillance System ▪ Video based Fire Detection System at File/Document/Public Record keeping locations ▪ Video Surveillance System with Intelligent AI based Video Analytics .
3.	Monitoring and Control Center	▪ CCTV Monitoring & Control Center setup
4.	Public Address System	▪ IP based PA system consisting of Outdoor horn speakers and Indoor box speakers at all Entry/Exit gates, Parking lots, Canteen and Public gathering places.

During installation and commissioning the SI need to ensure that the existing CCTV Surveillance system should remain live till FAT of the new system. For setup of the new CCTV Surveillance system no active or passive items of existing CCTV setup should be used by the SI. As of now there is no scope of integration of the old CCTV cameras system in current scope of the project. However, BSEDC may ask the SI to integrate only few newly installed IP cameras/NVR with the new Surveillance system without any additional cost. BSEDC will ensure that the number of such cameras will be not more than 10.

21.2 Site Survey

As per system integrator's scope of work, the system integrator will conduct a detail site survey to prepare actual and final project bill of material for all security surveillance solutions. They will prepare and submit the following documents post site survey.

i. Detailed Bill of Material.
ii. Detailed Design Documents.
iii. Detailed Block Diagram.
iv. Detailed E&C Drawing.
v. Detailed of Civil work plan to be conducted for installation.
vi. Detailed Project execution plan with timeline.

The project consultant team will validate and approve the above documents and bill of material with inputs from BSEDC and other stakeholders. Based on site survey quantity of all active and passive materials may vary. Payment shall be made as per actual. By participating in the bid the all the bidders are accepting this clause. Please refer to RFP clause number 19.2.8 and 19.2.10 in this regard.

21.3 Scope of Supply

- The successful bidder shall arrange all the material as per final BoM and complying with the functional and technical specification in Annexure 1 and 2. All the material to be arranged at a single warehouse at Patna and SI shall send request to BSEDC for inspection. The request letter should enclose a list of all the materials with Make, Model, Serial number and Part code number for each item. BSEDC / appointed PMU shall inspect all material and shall issue the inspection Report.
- Quality inspection of critical items.
- Supply of all components at Patna high court and safe keeping of the items at high court premises with help from the Police department and court authority till successful installation and commissioning as per RFP and Final Agreement within specified timeline.

21.4 Installation, Configuration and Integration

- The installation of the CCTV System shall be carried out by the consultants of the OEM or directly under their supervision. The installation shall be therefore be certified by the OEM failing which no payment for the same shall be made by the Consultant-in-charge. The testing and commissioning shall be carried out by the expert consultants of the OEM at the site in the presence of the BSEDC consultant authorized representative.
- The installation shall be tested for at least 15 days before commissioning. Such acceptance testing shall be carried out by the department directly and/or through third party. Completion certificate shall be issued only after such acceptance testing is found to be fully compliant with the specifications and directions of the Consultant-in-charge. The decision of the Consultant-in-charge and/or the accepting authority in the matter shall be final and binding.
- Physical installation and powering of all supplied components as per approved layout.
- Complete configuration and integration of all the components on the network.
- Any structure, permanent or temporary, dismantled or destroyed during the execution of the work shall be refilled/remade or restored to its previous condition by the vendor at its own cost.
- Bidders are required to note that while executing the project, the successful bidder shall finalize the actual place for placement of cameras at each building and fixation of height & angle for the cameras would be done carefully to ensure optimum impact. During the course of project, if some camera requires change of FOV, it should be done by SI without any extra cost, in consultation with Police officials.
- Note: Bidder not allowed to submit variation bid. Any change in scope of work finalized at the stage of contract finalization or after shall be dealt with in the ambit of the principles mentioned in the RFP.
- BSEDC and other stakeholders shall extend necessary support to SI (in terms of documentations, meetings with concerned authorities, etc.) for getting the approvals / licenses from concerned authorities, if all the necessary requirements are in place.
- The SI shall install, configure the IP cameras, Recording system, Rack, switch, servers UPS etc. at the identified locations and then undertake necessary work towards their commissioning. SI should use the industry best practice while positioning and mounting the cameras. Some of the check-points which need to be adhered by the SI while installing / commissioning cameras are as follows:

- Ensure Surveillance objective is met while positioning the camera, create the required field of view
- Carry out proper adjustments to have the best possible image
- Benchmark specifications for various types of cameras to be supplied & operationalized as part of this project are given in Annexure I of this RFP. Bidders are required to ensure that Cameras proposed are capable to meet these benchmark specifications and are also able to adhere to the functional requirements specified.

21.5 CCTV Monitoring & Control Room

- This area will be approx. 20 Feet (Length) X 16 Feet (Width)
- There will be a single-Entry Exit door of this monitoring and control room. Metal door to be supplied by SI.
- SI to supply Furnitures for keeping controller workstations and sitting arrangement for Police and other security officials for maximum 10 persons.
- Temperature controlled Fully airconditioned room with sequential controller with power backup for all back-end ICT system and monitoring workstations.
- Required renovation including necessary Civil works, Electrical cabling, provisioning of power backup including earthing and surge protection, false ceiling, flooring, Metal Door supply and installation with Access control system for entry exit control and lighting arrangement will be done for setting up of a new monitoring and control center.
- It will have typically 4 monitoring and controlling workstations. Each workstation will be fitted with two 24" LED monitors for monitoring and control of cameras and other access control systems.
- Additionally, the room will be fitted with a high definition video wall for viewing and controlling the cameras and other system more precisely.

The ICT infrastructure for CCTV Surveillance & Public Address system system will typically comprise of following:

#	ICT Components & Purpose
1.	4 High End workstation with Graphics Card with LED Videowall and Display monitors for 24X7 live monitoring and control of CCTV Surveillance system and Access Control system. Each workstation will be fitted with joysticks for moving, controlling and zooming of cameras.
2.	1 dedicated workstation for system integrator project manager for health monitoring and troubleshooting of the entire system.
3.	High end servers will be installed inside Racks for hosting Video management application, monitoring and analytics software, other access control software.
4.	1 shared unified storage box will be installed for recording and storing of video records for 90 days.
5.	Redundant Core Network Switches and distribution switches for entire system will be placed inside the 42U network rack.
6.	Entire system will be protected using Antivirus software.
7.	Biometric Access Control System will be installed to control physical access of the monitoring and control center room and Server/NOC room.
8.	Public Address system controller, software and Mic will be also installed at one of the workstations for announcement and managing the PA system centrally.

21.6 Terms and Conditions

I. The SIs are advised to get acquainted with the proposed work and its site and also study the Architectural Drawings, specifications and special conditions carefully before tendering. No claim of any sort shall be entertained on account of any site conditions and ignorance of specifications and special conditions.

II. The rates quoted by the SI shall be taken as net and nothing extra shall be paid on any account i.e. royalty, cartage, taxes and stacking at required places etc.

III. The rates for different items of work shall apply for all heights and depths and basements, leads and lifts unless otherwise specified in the agreement or specifications applicable to the agreement.

IV. After completion of installation, the structure cabling work shall have to be tested as per EIA standards for its suitability for use at minimum 1000 Mbps, by using suitable equipment like scanner etc. in the presence of authorized representative of Consultant-in-charge. The test results shall be tabulated and submitted, in case any part of the work does not comply with the standards specified by EIA or fails the test, the same has to be redone without any extra charge.

V. Any damage done by the SI to any existing work during the course of execution of the work shall be made good by him at his own cost.

VI. Articles manufactured by the reputed firms and approved by Consultant-in-Charge shall only be used. Only articles classified, as „first quality" by the manufacturer shall be used unless otherwise specified. In case articles bearing BIS certification are not available in the market, quality of samples brought by the SI shall be judged by standards laid down in the relevant specifications. For the items not covered by RFP specifications relevant BIS standards shall apply. The sample of materials to be brought to site for use in work shall be got approved from the BSEDC consultant before actual execution of work.

VII. The quantities of each item shall not be exceeded beyond the agreement quantities without prior permission of BSEDC consultant.

VIII. Statutory deductions on account of GST, income tax and surcharge as applicable shall be made from the gross amount of the bill.

IX. The SI shall make his own arrangements for obtaining electric connection, if required and make necessary payments directly to the department concerned.

X. The SI shall make his own arrangement for getting the permission to ply the trucks from the traffic police.

XI. No payment shall be made to the SI for any damage caused by rain, snow fall, floods or any other natural causes whatsoever during the execution of work. The damage caused to work shall have to be made good by the SI at his own cost and no claim on this account shall be entertained

XII. Co-Ordination with other Agencies:

a. Wiring and conduiting, Cabling for CCTV has already been done in the some of the area by the existing E&M executing agency. The SI is required to co-ordinate with the existing working E&M agency to execute the work.

b. Other agencies may also simultaneously be executing the Civil work, or external services and other building works for the same building along with this work. The following services shall be extended by SI to other agencies for carrying out their work.

    i. Access to various works of site.

    ii. Make available clear site

c. The SI shall co-ordinate with all other agencies involved at the site of work so that the work of other agencies is not hampered. Where activity of SI is directly affecting the progress of other agencies, the same shall be given priority. SI is required to note the milestones of other agencies and plan his activities to facilitate so as to avoid any hindrance to other agencies. In case of any conflict with work schedule of any other agency at site, decision of Consultant-in-charge shall be final and binding.

d. SI has to co-ordinate with other SI in such a fashion so that they get reasonable time to take up their work. During execution of work Department may desire for completion of certain areas on priority, in such cases SI shall modify his plan accordingly.

XIII. The cost of Co-ordination/facilities extended to other SIs shall be deemed to be included in the quoted amount of SI and nothing extra shall be payable.

XIV. Some restrictions may be imposed by the security staff etc. on the working and or movement of labor and materials, etc. the SI shall be bound to follow all such restrictions / instructions and nothing shall be payable on this account.

XV. The SI shall take all precautions to avoid accidents by exhibiting necessary caution boards. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of the work by storing materials on the road.

XVI. The SI shall be fully responsible for the safe custody of the material issued or brought by him to site for doing the work.

XVII. The rate for all items of work, shall unless otherwise clearly specified include cost of all labor, material and other inputs involved in the execution of the items.

XVIII. Any reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The SI shall keep at his own cost all such publications of relevant Indian Standards applicable to the work, at site.

XIX. The SI shall make his own arrangement of electricity and its distribution at his own cost. The department will render only assistance to the SI for making application to authorized Electric supply agency, if required. All the fees and charges including consumption charges shall be borne by the SI.

XX. The malba /garbage generated at site due to construction activities shall be removed from the site immediately & shall be disposed off by the SI to the approved dumping site identified by the Consultant-in-charge.

XXI. The SI shall clean the site thoroughly of scaffolding materials, rubbish, equipment left out of his work and dress the site around the building to the complete satisfaction of the Consultant-in-charge before the work is treated as completed.

XXII. SI if required will assist the consultant in getting the completion certificate from local bodies.

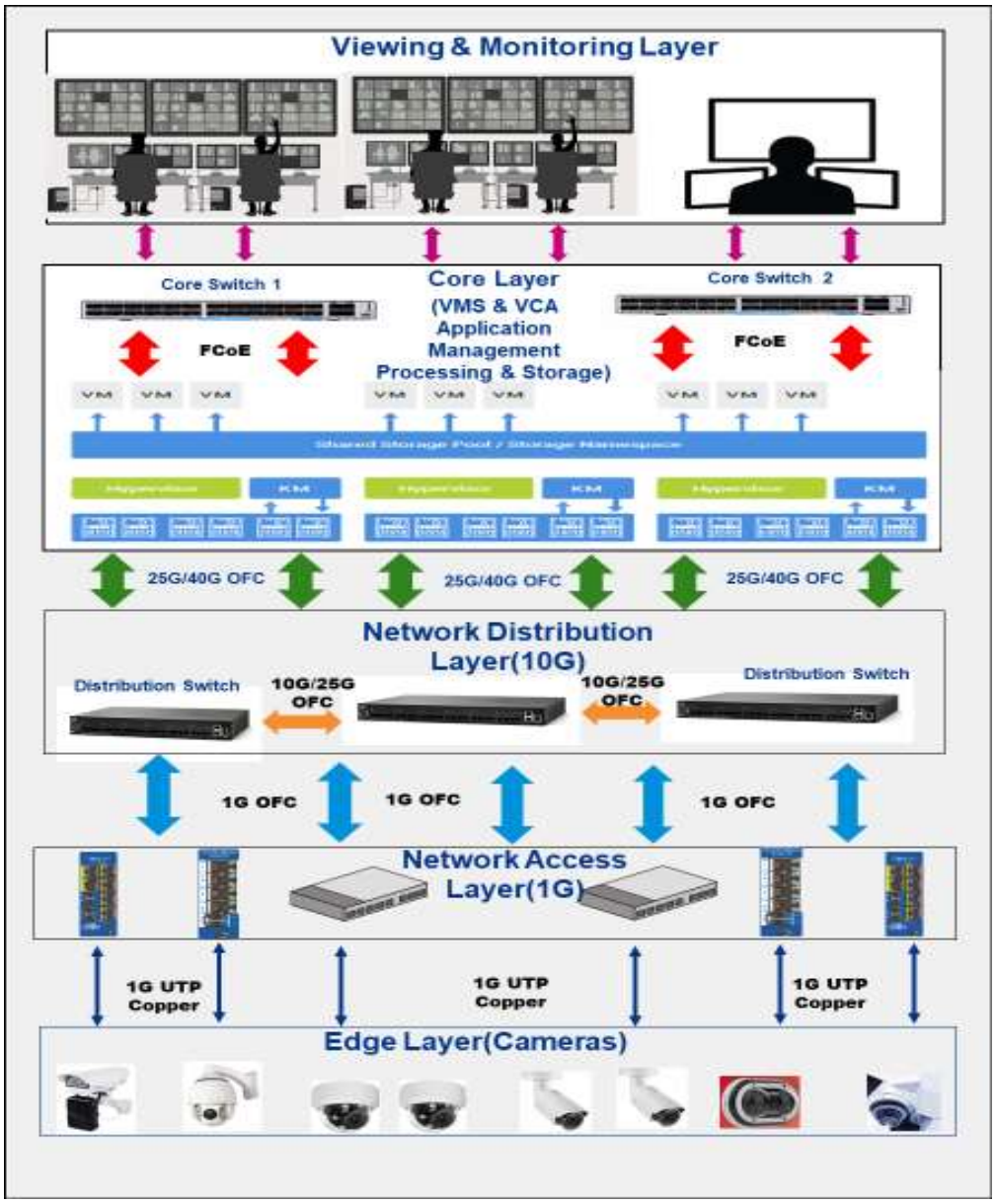
XXIII. The department shall be at full liberty to get the installation inspected by the third party and the SI shall have to make all modifications in the designing and installations as communicated to it by the department inter-alia advised by the third party.

21.7 Guarantee

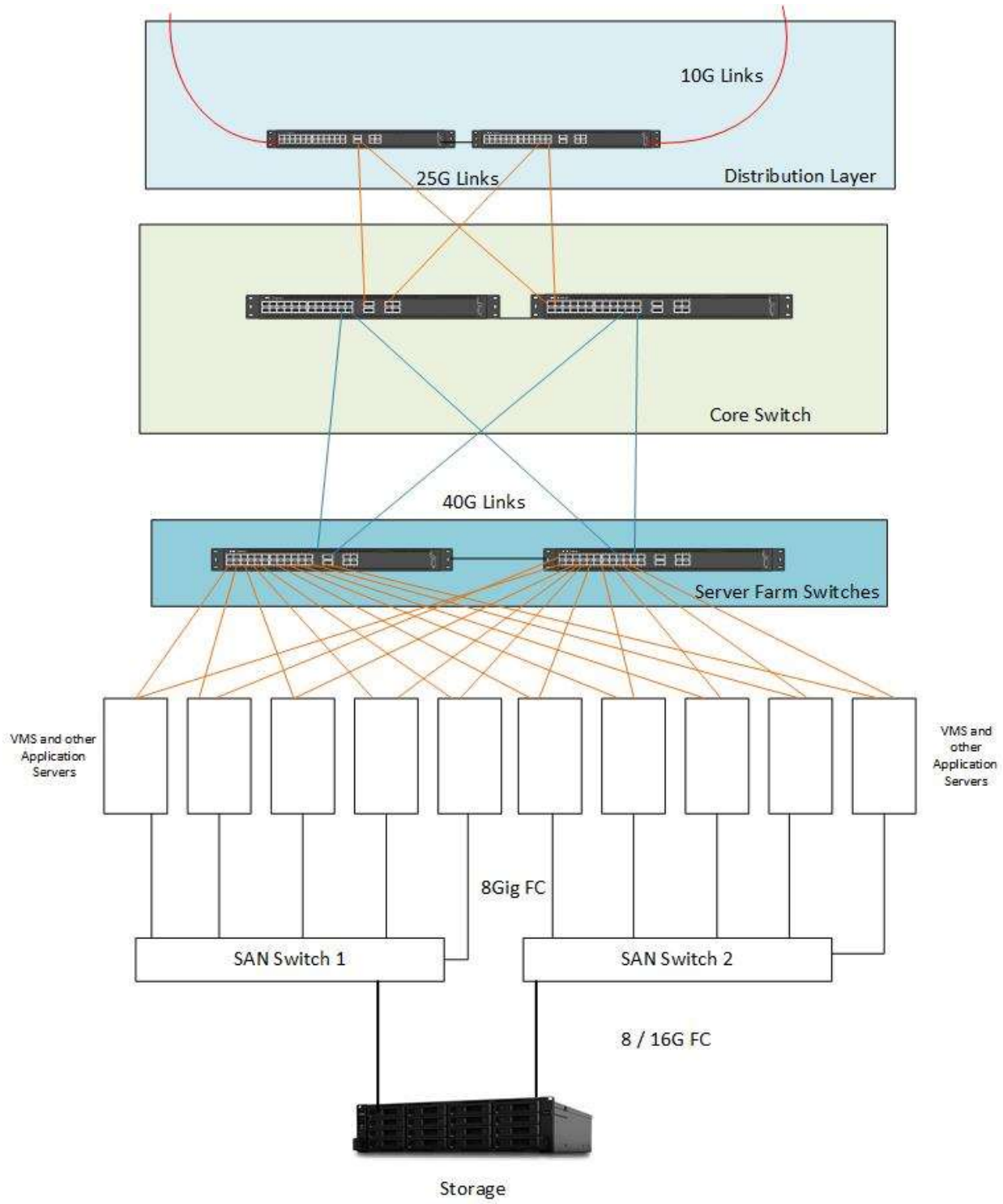
The installation shall be handed over to the department after necessary testing and commissioning. The installation including all equipment & material supplied by the SI shall be Guarantee for a period of 60 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipment or components, or any part thereof, so found defective during Guarantee period shall be forthwith rectified/ repaired or replaced free of cost, to the satisfaction of the Consultant-in-Charge. In case it is felt by the department that undue delay is being caused by the SI in doing this, the same will be got done by the department at the risk and cost of the SI. The decision of the BSEDC consultant team in this regard shall be final & building on the SI. Sufficient trained and experienced staff shall be made available to meet any exigency of work/ rectification of defective work/ material during the Guarantee period of 60months from the handing over of the installation, on requirement by the Consultant-in-charge. Round the clock break down services shall be ensured for rectification of defects during the defect liability period of 60 months after the date of handing over/ completion, whichever is later, and the same is deemed included in the scope of the work.

21.8 System Architecture Diagram

Patna high Court Area


Viewing & Monitoring Layer
Core Switch 1
Core Layer
(VMS & VCA
Application
Management
Processing & Storage)
Core Switch 2
FCoE
FCoE
VM
25G/40G OFC
25G/40G OFC
25G/40G OFC
Network Distribution
Layer(10G)
Distribution Switch
10G/25G
OFC
10G/25G
OFC
Distribution Switch
1G OFC
1G OFC
1G OFC
Network Access
Layer(1G)
1G UTP
Copper
1G UTP
Copper
1G UTP
Copper
Edge Layer(Cameras)

CMC Server NOC Room Architecture



21.9 Scope of Supply of Manpower

The system integrator will also provide three no. of dedicated resource for this project as per below. The resources to be deployed from Day of project Go-Live. The resources will be working from site as per Police department and High court defined days and hours. Attendance of the resources certified by High court and Police department to be submitted by the SI quarterly for claim against manpower.

- 1 Project Manager- Minimum graduate IT/CS/ECE Engineer with 8-10 years of CCTV Surveillance experience and trained and certified by offered VMS/CCTV OEM.

- 4 no. of L1 engineer with minimum Diploma Engineer/BCA/BSC qualification and 5 years of similar CCTV/Networking/Electrical experience.

Position Details	Qualification	Experiences
Project Manager	BE/B. Tech in IT/CS/ECE/Electrical/Electronic or Regular MCA	8-10 years of CCTV Surveillance experience and trained and certified by offered VMS/CCTV OEM.
L1 engineer	Minimum Diploma Engineer/BCA/BSC	5 years of similar CCTV/Networking experience.

General Terms & Conditions Regarding Manpower

a. **The SI should not quote rates of manpower less than latest April 2021 Ministry of Labor & Employment, Government of India minimum wages skilled labor rates. If less rates are quoted BSEDC may reject bid. Also, at the time of deployment of resource compliance of these rates to be adhered by the SI.**
b. SI shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
c. SI shall use commercially reasonable efforts to ensure it retains the services of its Key Personnel, including provisioning of competitive compensation, benefits and other conditions to its Key Personnel so as to incentivize them to remain in SI's employment.
d. SI shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from BSEDC that would have the same effect):

    1. Unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; or
    2. Without BSEDC's prior written consent.

e. SI shall carry out an evaluation of the performance of each member of the Key Personnel in connection with the Services at least once in each Contract Year. SI shall provide reasonable written notice to BSEDC of the date of each evaluation of each member of the Key Personnel and BSEDC shall be entitled to provide SI with input for each such evaluation.
f. SI shall promptly provide the results of each evaluation to BSEDC, subject to Applicable Law.
g. In case the resource has resigned then the bidder has to inform within one week of such resignation. SI shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 15 days, subject to reasonable extensions requested by SI of BSEDC

Before assigning any replacement member of the Key Personnel to the provision of the Services, SI shall provide BSEDC with:

1. A resume, curriculum vitae and any other information about the candidate that is reasonably requested by BSEDC; and
2. An opportunity to interview the candidate.

h. The bidder has to provide replacement resource who score at least the same marks as the resource proposed originally on the same evaluation parameters defined in this RFP document. Once this is confirmation, the BSEDC shall conduct an interview of the candidate and notify SI within ten days after its interview (or if BSEDC does not request an interview within ten working days after SI has provided the information, then it would be deemed as accepted).

i. If BSEDC does object to the appointment, SI shall not assign the individual to that position and shall seek an alternative candidate in accordance with this Section. The bidder has to ensure at least 4 weeks of overlap period in such replacements.

21.10 Scope of Documentation

- Providing original manuals of all hardware items supplied.
- Implementation plan, to be approved by the authority before initializing the installation and configuration activity.
- Test parameters, commitments etc. for acceptance testing to be enclosed along with implementation plan.
- Operator manual for shutdown/start of the active resources.
- Acceptance test reports, performance test reports of all components.
- Any other relevant documentation.

21.11 Scope of Acceptance Testing and Commissioning

- After installation and configuration of each subsystem, integrating various systems and providing various services, tests shall be conducted for system performance.
- Commissioning shall mean end-to-end commissioning of the complete CCTV, Access Control with testing of live applications. Test parameters, commitments etc. shall be submitted along with implementation plan, which will be approved by the authority.
- In the event, the test parameters, commitments are not submitted or not accepted explicitly in writing/minutes by the authority, the test parameters, commitments etc. as decided by the authority will be final and binding.
- Upon Self-testing and Commissioning, the system shall be offered for inspection by the authority.
- The successful Bidder, along with the authority shall prepare an Inspection and Acceptance schedule with details of each activity.

21.12 Partial Acceptance Testing & Final Acceptance Testing of IT & Non-IT Equipment

The acceptance test for the project shall be carried out by BSEDC / Police Department or duly appointed third party agency by BSEDC. The Successful bidder should cooperate with the third party agency to ensure successful completion of Acceptance tests.

The acceptance test shall consist of a Partial Acceptance Test (PAT) and Final acceptance test (FAT). The successful bidder shall submit a detailed acceptance testing document at the stage of planning and BSEDC / Police Department & the successful bidder shall mutually agree upon the same.

21.13 Partial Acceptance test

Partial Acceptance Test shall involve scrutiny of documents for various IT / Non-IT components to verify if the specifications conform to the requirements mentioned in the RFP and subsequent corrigendum. BSEDC / Police Department reserves right to conduct physical inspection or remote inspection of the equipment delivered to ensure that they arrive at the sites in good condition and are free from physical damage and incomplete shipments and shall return the products to the Supplier at the supplier's expenses if required quality is not maintained. Physical inspection of hardware will also include physical checking and counting of the delivered equipment in presence of the successful Bidder. The equipment will only be acceptable as correct when each received item corresponds with the checklist that will be prepared by the BSEDC consultant team prior to shipment. Any shortfalls in terms of number of items received may render the delivered equipment incomplete. SI shall submit third party test reports on performance for the critical components like Cameras, Active Network Equipment, Display, PS etc.

21.14 Final acceptance Test

After successful installation of equipment's in accordance with the requirements in the RFP. The successful bidder would need to carry out Final Acceptance Testing in 2 different phases - (a) Unit Testing and (b) Integration Testing. These tests would be carried out based on the test cases developed and validated by BSEDC and Bihar Police. Apart from the functional testing of the entire system components, the testing would also verify following aspects –

- Configuration Testing (to ensure that all the components are configured properly)
- Security Testing (to review & evaluate security controls)

Final Acceptance Certificate shall be issued by BSEDC / Bihar Police to the successful bidder after successful testing in a real time condition for at least 14 days of trouble free operation and checking adequate storage of camera feeds as per the RFP requirement. The date on which final acceptance certificate is issued shall be deemed date of the successful commissioning of the project. Any delay by the successful bidder in the performance of its contracted obligations shall render the successful bidder liable to the imposition of appropriate liquidated damages, unless agreed otherwise by tenderer.

21.15 Preventive Maintenance

I. Scheduled preventive maintenance shall be performed at least once in a months or as recommended in the product support documentation. This maintenance includes all cleaning, lubrication, inspection, testing, calibration, focusing of field equipment, checking of cable insulation, checking for corrosion of steel support, painting to save from rusting, repairing of concrete base of field equipment and structure, checking of cable clamps and replacements if so needed as well as necessary alignment to prevent failures.

II. SI shall ensure that all Preventive Maintenance works are properly carried out with minimum interruption to the operation of the system.

III. SI shall submit a rolling monthly/quarterly maintenance work program as per an approved checklist. Bidder shall also submit a Preventive Maintenance report to the department. Department reserves the right to add and delete items on the check list without any additional cost.

IV. SI shall liaise with the respective proprietary software/hardware SI or other suppliers to ensure that all required maintenance is met.

V. Software Preventive Maintenance shall include but not remains limited to the following:
    a. Installation, reconfiguration, testing and implementation of standard corrections, patches and updates of all software.
    b. Performing regular backup so as to restore the system in the shortest possible time;
    c. In the event that the software support from the OEM is terminated, Bidder shall be responsible for maintaining the affected software at no additional cost and with no adverse delay to the operation of system.
    d. Licenses for all the operating and application software etc. shall be made available by the Bidder at no additional cost. The original agreement documents of all the licenses shall be submitted to department within a week of its renewal.

e. SI shall be responsible to supply and install the latest antivirus software and patches as well as the associated license. The antivirus software shall be include at least the following features:

1. Functions to automatically scan all file inputs, outputs, downloads, program execution and
2. other system related activities; Functions to clear or delete the infected file(s);Ability to check specific files for viruses; Ability to allow the creation of emergency back-up disk to start and clean infected boot sector virus; and Ability to push signature files and upgrades from one main console to the rest of the hardware. There shall be no manual updates and upgrades on individual servers and workstations.
3. Bidder shall update the virus definition file as and when we update is available. Hardware Preventive Maintenance shall include all scheduled servicing actions. Scheduled servicing shall include accomplishment of periodic inspection, condition, monitoring, critical parts replacements, overhaul, adjustment, calibration, etc. In addition, servicing requirements (i.e. lubrication, cleaning, housekeeping, etc.) shall also be included under the general category of schedule servicing.
4. Any Preventive Maintenance work carried out shall not cause any disruption to the operation of System and all the communication links. In the event that any System downtime is required during PM work, Bidder shall seek Buyer's approval prior to carrying out the works.

21. Deliverables and Timelines

T0: 7 Days after date of Issuance of LoI to SI.

Total Project completion Time: 22 Weeks.

#	Activity	Timeline
1.	Mobilization of Resources and Details Project Execution Plan	**T0 + 01 Weeks**
2.	Site Survey and Preparation of all drawings and actual BOM	**T0+02 Weeks**
3.	Supply of all passive and electrical items of materials at site	**T0 + 8 weeks**
4.	Supply of all active component cameras, servers, storage box, switches etc. at site.	**T0 +12 Weeks**
5.	Completion of Backbone Infrastructure and commencement of commissioning of active items	**T0 + 14 Weeks**
6.	Completion of installation of all active components including commissioning and CMC by PAT	**T0 + 20 Weeks**
7.	Testing, User Training, Handover and Go Live of entire system after Final Acceptance Testing (FAT)	**T0+22 Weeks**

22. Service Level Agreement

Service Level Agreement (SLA) shall become the part of contract between BSEDC/Patna High Court and the Successful Bidder. SLA defines the terms of the successful Bidder's responsibility in ensuring the timely delivery of the deliverables and the correctness of the same based on the agreed Performance Indicators as detailed in this section. The successful Bidder must comply with Service Levels requirements to ensure adherence to project timelines, quality and availability of services.

The successful bidder must supply software / automated tools to monitor all the SLAs mentioned below.

Note: Penalties shall not be levied on the successful Bidder in the following cases:

- There is a force majeure event effecting the SLA which is beyond the control of the successful Bidder
- The non-compliance to the SLA has been due to reasons beyond the control of the bidder.
- Theft cases by default would not be considered as "beyond the control of bidder". However, certain cases, based on circumstances & certain locations, Patna High Court / BSEDC may agree to qualify as "beyond the control of bidder". However, Power shut down due to UPS fault would not be considered as "beyond the control of bidder".
- The purpose of this Service Level Agreement hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the System Integrator to BSEDC / Patna High Court for the duration of this contract.

Definition

For the purposes of this service level agreement, the definitions and terms are specified in the contract along with the following terms shall have the meanings set forth below:

- **"Uptime"** shall mean the time period for the specified services / components with the specified technical service standards are available to the user department. Uptime, in percentage, of any component (Non-IT & IT) can be calculated as:

  Uptime = {1- [(Downtime) / (Total Time – Maintenance Time)]} * 100

- **"Downtime"** shall mean the time period for which the specified services / components with specified technical and service standards are not available to the user department and excludes downtime owing to Force Majeure & Reasons beyond control of SI.

- **"Incident"** refers to any event / abnormalities in the functioning of the Services specified as part of the Scope of Work of the Systems Integrator that may lead to disruption in normal operations of the Surveillance System.

- **"Resolution Time"** shall mean the time taken (after the incident has been reported at the helpdesk), in resolving (diagnosing, troubleshooting and fixing) or escalating (to the second level or to respective Vendors, getting the confirmatory details about the same from the Vendor and conveying the same to the end user), the services related troubles during the first level escalation.

Measurement of SLA

The SLA metrics provided specifies performance parameters as baseline performance, lower performance and breach. All SLA calculations will be done on quarterly basis. The SLA also specifies the penalties for lower performance and breach conditions.

Payment to the successful bidder is linked to the compliance with the SLA metrics. The matrix specifies three levels of performance, namely,

- The Agency will get 100% of the Contracted value if the all baseline performance metrics are compiled and the cumulative credit points are 100.
- The Agency will get lesser payment as per penalty clause.
- If the performance of the Agency in respect of any parameter falls below the prescribed lower performance limit, debit points are imposed for the breach.

The quarterly payment shall be made after deducting the penalty as mentioned above.

The SLA parameters shall be measured per the individual SLA parameter requirements and measurement methods, through appropriate SLA Measurement tools to be provided by the SI and audited by BSEDC or its appointed Consultant for accuracy and reliability. The System Integrator would need to configure the SLA Measurement Tools such that all the parameters as defined under SLA matrix can be measured and appropriate reports be generated for monitoring the compliance.

BSEDC shall also have the right to conduct, either itself or through any other agency as it may deem fit, an audit / revision of the SLA parameters. The SLAs defined, shall be reviewed by BSEDC on an annual basis after consulting the SI, Project Management Consultants and other experts. All the changes would be made by BSEDC after consultation with the SI and might include some corrections to reduce undue relaxation in Service levels or some corrections to avoid unrealistic imposition of penalty, which are noticed after project has gone live.

Bidder is also required to note that incase of SLA penalties not being applicable for the cases considered as "beyond the control of bidder", bidder would be still required to solve the problem within the SLA defined for resolution of critical level/medium level/low level issues. In case bidder doesn't adhere to the issue resolution SLA timeline, the original SLA shall be made applicable.

Total penalty to be levied on the SI shall be capped at 10% of the total contract value. BSEDC would have right to invoke termination of the contract in ANY of the following cases:

- If the overall penalty applicable in any 2 consecutive quarters during the contract period is 10%in each quarter.
- If during the entire contract period, overall penalty applicable for 4 quarters is 10% in each quarter.

Planned Downtime

Any planned application / System downtime would not be included in the calculation of application / System availability. However, the Successful Bidder should take at least 10 days prior approval from Patna High Court/Police Department
/ BSEDC in writing for the planned outage, which should not be for more than 30 minutes, would be in lean period (non-movement period, like post mid-night) and limited to max. 2 outages in a year.

22.1.1 Pre-Implementation SLA and associated Penalties

Definition	Timely delivery of deliverables would comprise entire bill of material and as per successful PAT of the system.
Service Level Requirement	All the deliverables defined in the contract must be submitted On-time on the date as mentioned in the contract with no delay.

Measurement of Service Level Parameter	To be measured in Number of weeks of delay from the project go-live timelines.
Penalty for non-achievement of SLA Requirement	Penalty for non-achievement of SLA Requirement -Any delay in the delivery of the project deliverables would attract a liquidated damage of 0.5% of the CAPEX of the contract value per week for first 2 weeks and 1% per week for subsequent weeks and 2% per week for subsequent 4 weeks **for a maximum of 10% of the total contract value. If the penalty reaches 10% of the total contract value**, BSEDC may invoke termination clause. Penalty will be computed on Capex value of contract.

22.1.2 Post Implementation SLA

#	SLA Parameter	Target
1.	Availability of Camera view in controller workstation monitors, Video Management & Recording System, Switches and Online UPS (24x7x365)	99.00%
2.	Manpower Availability*** (9 AM to 6 PM Monday to Saturday including holidays)**	99.90%*
***Availability of manpower subjected to working days defined by Police department/Patna High court.**		

Penalty

The system integrator shall be paid QGR as per the services (i.e. availability) provided to the tenderer. System downtime/non availability will be calculated as per report generated from the Infrastructure Management Software.

Parameter	Availability at each location	Penalty i.e. Deduction
Availability of all cameras and active devices including Online UPS (24x7x365)	Above 99%	No Penalty
	Between 99.00% to 97.01%	5.0% of QGR value of O&M
	Less than 97%	10% of QGR value of O&M
Manpower Availability*(9 AM to 6 PM Monday to Saturday including holidays)	Above 99.90%	No Penalty
	Between 99.90% to 97.01%	1.0% of QGR value of Manpower
	Between 97.00%-95%	5.0% of QGR value of Manpower
	Less than 95%	10% of QGR value of Manpower

- If the 10% penalty clause gets invoked in any 2 consecutive quarters during the contract period, then from next quarter onwards penalty will be imposed on total O&M cost of the location.
- If the above stated clause (A) gets invoked in any two consecutive quarters for 2% of the total Go-Live location, then BSEDC will have the right to invoke termination of the contract and forfeit PBGs.

Security Breach SLA

Note: This SLA for Security Breach is applicable over and above the SLAs mentioned in the above table

Definition	Security of the video feeds and the overall system is quite important and successful bidder shall be required to ensure no compromise is done on the same. Security Breach types considered for this SLA are–
	Availability of Video feeds to any other user than those authorized by the Police Dept. and must be available using unique passwords
	Availability of any report / data to any other user than those authorized by the Police Dept. and must be available using unique passwords
	Or any other privacy rule is broken as per Govt. of India guidelines
Service Level Requirement	Security compliance of the system should be 100%
Measurement of Service Level Parameter	Any reported security breach shall be logged into the SLA Management solution as a security breach.
Penalty for non-achievement of SLA Requirement	For every security breach reported and proved, there shall be a penalty of INR 100,000/-.

Breach in supply of Technical Manpower

Definition	**Bidder is required to take approval of all the CVs of the required technical manpower before deployment. It is vital that such manpower is available to Police Department as mentioned in the RFP and performs to the expected levels. The current SLA breach shall specify penalty amount for non-availability of these man-Power.**
Service Level Requirement	Availability of the required man-power should be 99.9%
Measurement of Service Level Parameter	Following instances would be considered as SLA non-compliances : • Replacement of a profile by the bidder (only one replacement per profile would be permitted per year). • Non-deployment of the profile for more than 1 month. BSEDC reserves the right to ask SI to replace the profile if the performance / commitment is not up to the mark Note: Replacement due to reasons not in control of SI (like resignation of the resource, accident, etc.) would not be counted in the permissible 1 replacement .

Penalty Calculation for Camera Availability

Definition	"Camera Availability" means availability of the camera feed & Video Recording at the Monitoring and control room.
Measurement of Service Level Parameter	[(Total average Uptime of all the Cameras in a quarter)/ (Total Time in a quarter)]*100

Penalty Calculation for Quality of Feed

Definition	"Poor quality video feed" means blurred, jiggered, dim or unclear video. Camera Feed Error Resolution time is the time taken to improve the feed to satisfactory levels after it has been detected & logged by the Surveillance System / administrative officials. Logging of such calls would be through helpdesk system.
Service Level Requirement	The average availability of the quality of feed should be at 99.9%. This period is excluding the period of unavailability of camera. (i.e. the camera video quality would be judged for the period it's available).
Measurement of Service Level Parameter	[(Total average Uptime of all the Cameras in a quarter – Total time logged for poor quality video feed) / (Total average Uptime of all the Cameras in a quarter)]*100

23. Payment Terms

- **The ratio of Capex and Opex should be 70:30.**
- **Manpower Cost is separate from Opex.**

The project Payment terms are divided in 2 Parts A. Capex and B. Opex as per below tables.

PART – A: Capital Expenditure (CAPEX)		
#	**Milestone**	**Supporting Document required**
1.	On delivery of all passive and electrical material as per bill of material proposed by the successful bidder in their bid: 40**% of itemized CAPEX Bill amount (Capex Amount to be derived from 70% of Total Project Capex Value)**	• Delivery Challan should contain the serial number of the equipment being supplied. • HSN code should be mentioned against each line item of the Invoice submitted
2.	On delivery of all remaining material as per final Survey Quantity 40**% of itemized CAPEX Bill amount.**(Capex Amount to be derived from 70% of Total Project Capex Value)	• Delivery Challan should contain the serial number of the equipment being supplied. • HSN code should be mentioned against each line item of the Invoice submitted
3.	Completion of Backbone Infrastructure and commencement of commissioning of active items-**20% of total Capex value(Capex Amount to be derived from 70% of Total Project Capex Value)**	• Onsite inspection will be done. Payment will be made subject to satisfactory status report given by consultant.
4.	Completion of CMC by PAT- 3**0% of total Capex value(Capex Amount to be derived from 70% of Total Project Capex Value)**	• Physical Installation completion certificate with detail BOM signed by competent police authority.
5.	On completion FAT, Go-Live, User training(Training to be done by OEM certified engineer(s) free of cost) followed by project inauguration and handover-**Remaining 10% of the Capex value(Capex Amount to be derived from 70% of Total Project Capex Value)**	• Go-Live certificate issued by BSEDC. For successful Go-Live, issuance of FAT and Acceptance certificate by the BSEDC is mandatory.

Part-B: Operational Expenditure (OPEX) including O&M, Manpower Cost and Warranty Support Cost.			
S. No	**Activity/Task**	**Supporting document required**	**Payment Milestone**
1.	**Payment against Financial Bid Manpower Cost for 5 Years i.e. (E)** on Deployment of Project Manager and L1 engineers for Go-Live	System generated Attendance records certified by of Police department in charge at Patna HC and Admin Log details of system.	In equal QGRs, based on actual deployment from date of Go Live.
2.	Remaining 30% of Capex Value considered as Project Opex value(Opex Amount to be derived from 30% of Total Project Capex Value)	Monthly and Quarterly system generated SLA report as per scope of work and MSA terms	In equal QGR (20 QGR)

** Successful bidder must submit all the required documents with invoice for processing of payment. Successful bidder needs to submit tax invoices in triplicate for processing of payment. All payments are subject to punitive deductions as and when applicable. The ratio of Capex and Opex should be 70:30.

**** Operations and Maintenance phase of the project will be started after Final Acceptance Test (FAT). SI will also be required to provide full time O&M support for sixty (60) months as per scope of work.

24. Annexure1-Indicative Functional & Technical Specification

24.1 General OEM Criteria

1. Camera and VMS can be from different OEMs as long as they are compliant interoperable through ONVIF profile for end to end seamless integration of all feature such as Streaming, Storage(Server and Edge based), Recording, and Playback, Edge VA support from Day 1. All quoted camera models and Video Analytics software should have prior integration of all features with the quoted VMS version latest on date of bid submission. VMS OEM and Camera OEM to submit declaration regarding this. If camera and VMS are from different OEMs then prior integration reference of minimum 100 cameras running successfully for last 1 year with offered VMS OEM should be submitted by OEMs.
2. All active systems and components including cameras and accessories must have all of following valid certification latest on date of bid submission
    i. NDAA/OWASP/UL 60950(Quoted Model specific)
    ii. CE(EN 50130-4)
    iii. FCC Part 15
    iv. BIS IS 13252 (Part 1):2010 or as applicable with OEM's own direct manufacturing address. Certificate done in 3rd party address not acceptable.
    v. ONVIF Profile S,G & T(For all Camera models and VMS)

    Copy of the certification shall be submitted.
3. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system. The systems and components shall have been thoroughly tested with offered specification. No equipment models with optional specification acceptable.
4. All cameras should have direct 3 Years warranty support from OEM from date of supply. OEMs to submit declaration for warranty support.
5. The OEM for CCTV camera should have at least 100 employees on their direct payroll dedicatedly working in Security/Surveillance business line (Parent company or group company employee strength shall not be accepted). The OEM should have registered RMA service center in India.
6. The proposed Camera, VMS, PA, Server, Storage, Videowall, Firewall OEM should have direct on role technical support engineer in India.
7. Camera OEM should have own valid factory license and their own brands manufacturing process should be ISO 9001:2015 and ISO 14001:2004 certified. Valid ISO Certificates of the manufacturing facility in name of participating OEM to be attached along with the bid.
8. The Camera OEM its Parent company should be one of the latest ONVIF Full/Affiliate/ Contributing member brand/company.
9. The Camera, VMS and VA OEM/brand should have Worldwide project reference/experience of at least cumulative 5000 outdoor/city surveillance camera projects in last 7 years in India. Declaration and Project reference to be given by OEM on letter head.
10. VMS and all other proposed software OEMs should have preferably ISO 27001-2013 certificate.
11. Any of the proposed item/equipment of this project including cameras, switches, server, storage etc. should not contain any "Hi Silicon" make chipset/SoC/Sensor/parts. Camera OEM need to submit declaration on letter head regarding quoted model specific sensor and SoC details (Make, Model etc.). in case BSEDC will not get the reference document regarding the validity of "Hi Silicon chipset" on public domain, then SI have to show the same thing in any third-party laboratory
12. The MAC address of all cameras, switches, firewall, server, storage must be registered in the name of OEM/Brands quoted in the RFP.
13. The OEMs should not supply any equipment that is likely to be declared end of sale within 3 year from the date of supply. The bidder shall submit an undertaking from OEM's on letter head in this regard to the

purchaser with their bid.

14. License of all OS, system software, Antivirus, 2 Factor Authentication, VMS and VCA, PA software, Database, EMS/NMS/AMS/helpdesk etc. to be supplied for 5 years post go-live with direct support from the OEM.
15. All quoted product OEM or any of its group company should not have been blacklisted by any government department/PSU/Banks/agencies in India for last 5 years. Declaration to be submitted by all OEMs.
16. Servers, Storage, workstation, switches, Videowall to be supplied with 5 years NBD onsite support directly from OEM. Camera, VMS, Switch, Server, Storage, Videowall and UPS OEM to provide onsite installation support to SI and shall certify installation as per standard during commissioning and OEMs to submit declaration for the same along with MAF.
17. All of the switches except Outdoor switch should be from single OEM. All indoor switch models should be IPv6 Logo certified.
18. The outdoor switch OEM should have authorized service center in India.
19. The Server Management Sub-system shall have common criteria certification (Minimum EAL 2 or higher) and ASHRAE A3/A4 certification for all quoted models. .
20. The Storage (24.4.16) OEM should be Established and globally accepted Brand having strong service support network in India.
21. The Firewall OEM should comply with latest NSS labs NGFW test exploit block rate above 97.5%.
22. The Videowall Panel and Display OEM should have authorized service center in Bihar.
23. The UPS OEM should have supplied minimum 500 number of online UPS with Li-Ion Battery and 50 number of Modular UPS globally within last 5 years. Declaration with model number and client details to be submitted by the OEM. All UPS should be from same OEM. The UPS OEM should have dedicated service center in any state of North/East India.
24. In the Server/NOC Room only one 42 U Server Rack and one 42U Network Rack to be installed. SI to ensure all proposed Servers, storage and networking components should be physically scalable inside these two racks. Supporting sizing to be submitted by SI.
25. The Network Passive item OEM must provide declaration on conformity of all the passive components to the EIA/TIA 568-2D,568-3D and ISO/IEC 11801 standard. The OEM must be a member in TIA and BICSI organization. OEM shall have RCDD certified manpower in India for design support and validation. The OEM should have valid ISO 9001 and 14001 certificate and for seamless integration all Passive components should be from same OEM.
26. All OEM's to submit MAF in RFP specified format only along with technical compliance on letter head stamped and signed by competent authority failing which bid may be summarily rejected. In absence of MAF bid may be rejected.
27. The SI and all OEM's need to consider this as **A TURNKEY BASIS PROJECT**, calls for a complete working system and not components thereof. Therefore, the Bids must be complete solution with all equipment and required accessories along with necessary power systems including standard Uninterrupted Power Supply for the entire equipment, video connectors, patch connectors, patch leads, mounting, reinforcement (cable/wire) and fitting hardware, plugs, sockets and any hardware/software, etc. as required for complete installation& commissioning as per technical and functional specification of the System under this contract from Day 1.
28. **All "Make in India" OEMs complying the entire technical specifications, certification criteria and OEM qualification criteria are allowed to participate in this bid. OEMs proposed products should be ETDC or ERTL certified with MAKE IN INDIA tag (Wherever Applicable) required for consideration of Make in India OEM.**

24.2 Additional Special OEM Criteria

In view of the memorandum F No. 6/18/2019-PPD dated 23rd July 2020 issued by Public Procurement Division, Department of Expenditure, Ministry of Finance, all participating bidders and OEMs should comply to the restrictions under rule 144(xi) of General Financial Rules(GFRs) and related DO no.45021/171/2020-BE-II(E-45442) dated 27.05.2021 of Department of Promotion of Industry and internal trade and subsequent office memorandum of department of expenditure F-7/10/2021-PPD dated 8th June 2021. All bidders and OEMs need to submit declaration

in specified format regarding compliance of this clause as per Annex III of the above order. If any bidder fails to comply then their bids shall be summarily rejected. Refer to Form 19 under Annexure 3 of the RFP in which all OEMs on their letterhead with Stamp, signature by MAF signing authority need to submit declaration against these criteria.

24.3Indicative minimum specification of Active equipment

Note: Bidder need to attach Technical compliance on OEM letter heads and product datasheet of all items individually at Eproc site for all items.

24.3.1 5 MP IR Dome

Sl. No.	Camera Characteristics	Minimum Specification
1.	Image Sensor:	1/1.8" or 1/2.8" Progressive Scan CMOS
2.	Max Resolution:	5MP at 16:9 Aspect Ratio
3.	Lens	Motorized Varifocal Lens with min 2.4X or better Optical Zoom
4.	Min Illumination:	Color 0.26 Lux or better
5.	WDR	True 100+dB (Measured according to IEC 62676 Part 5)
6.	Day Night Operation	Automatic using IR Cut filter
7.	Viewable IR Distance	30 Meter or better.
8.	Video Streams:	Min 3 configurable streams in H.264, H.265 and M-JPEG, configurable frame rate and bandwidth.
9.	Video Compression	H.265 or equivalent
10.	Video Streaming	H.265 Mainstream-5MP/2560X1920@20FPS
11.	Protocol	IPv4/IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS 1.2, DHCP, FTP,SMTP, ICMP, IGMP, SNMPv1/v2c/v3, DNS, DDNS, QoS, UPnP
12.	Security	Password protection, HTTPS encryption, 802.1X authentication, Digital watermark, IP address filter, Digest authentication for HTTP/HTTPS, security audit log.
13.	Edge Storage	Each camera be supplied with Compatible 128 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1
14.	Operating Temperature	Up to 50 Deg
15.	Power Option:	PoE (IEEE802.3af, Class3)
16.	Certification	IP66, IK10 (IEC 62262) Edition 1.0:2001 or better
17.	Mounting Kit	Dome camera to supplied with suitable wall mount/Ceiling Mount kit as per site requirement without any additional cost

24.3.2 5MP Bullet Camera

Sl. No.	Camera Characteristics	Minimum Specification
1.	Image Sensor:	1/1.8" or 1/2.8" Progressive Scan CMOS
2.	Max Resolution:	5MP at 16:9 Aspect Ratio
3.	Lens	Motorized Varifocal Lens with min 2.4X or better Optical Zoom
4.	Min Illumination:	Color 0.26 Lux or better
5.	WDR	True 100+dB (Measured according to IEC 62676 Part 5)
6.	Day Night Operation	Automatic using IR Cut filter
7.	Viewable IR Distance	30 Meter or better
8.	Video Streams:	Min 3 configurable streams in H.264, H.265 and M-JPEG, configurable frame rate and bandwidth.
9.	Video Compression	H.265 or equivalent

10.	Video Streaming	H.265 Mainstream-5MP/2560X1920@20FPS
11.	Protocol	IPv4/IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS 1.2, DHCP, FTP,SMTP, ICMP, IGMP, SNMPv1/v2c/v3, DNS, DDNS, QoS, UPnP.
12.	Security	Password protection, HTTPS encryption, 802.1X authentication, Digital watermark, IP address filter, Digest authentication for HTTP/HTTPS, security audit log.
13.	Edge Storage	Each camera be supplied with Compatible 128 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1
14.	Operating Temperature	Up to 50 Deg
15.	Power Option:	PoE (IEEE802.3af, Class3)
16.	Certification	IP66, IK10 (IEC 62262) edition 1.0:2001 or better
17.	Mounting Kit	Bullet camera to supplied with suitable wall mount/Pole Mount kit as per site requirement without any additional cost

24.3.3 Multi-Sensor Panoramic Camera

Sl. No.	Minimum Specification
1.	Should be ONVIF compatible contain minimum 3 or 4 lens forming single Panoramic resolution Up to 12 MP covering minimum 180 Degree FOV. Should support H.265 or equivalent video compression technology.
2.	Should be IP 66 and IK 08 Rated.
3.	Should come with Wall/Pole mount bracket.
4.	Should have in-built Micro SD Card storage option for 7 days video.

24.3.4 5MP Box Camera

Sl. No.	Camera Characteristics	Minimum Specification
1	**Box camera**	Supplying, Installation, Testing & Commissioning of Box camera for perimeter intrusion detection. Progressive scan CMOS sensor IP Network Camera with 5MP at 16:9 Aspect Ratio , 25/30 fps H-264 and H.265/equivalent Compression, sensitivity colour 0.25 lux (colour) 0.05 lux(b/w), Minimum 3 Streams, Edge analytics: Motion detection, Loitering/Tampering Alarm. Should support Password protection. Each camera be supplied with Compatible 128 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1.To be supplied with compatible 9-40mm/5~50mm Auto Iris CS-Mount from camera Make or reputed make.
2	**Housing**	1.External housing for box camera with Wall/Pole mount bracket. Should Meets IP66 and Type 4X Standards. 2. Should be compatible with offered box camera model and lens combined length. 3.Should be completely compatible with offered external IR Illuminator using mounting kit. No custom-made

		mounting kit acceptable. 4.The housing shall be preferably offered with bird spikes 5.IK10 Mechanical Impact Resistance, Vandal Resistant 6. Cable Entry Glands and Mounting Holes on Bottom of Enclosure 7.Preferably Power Over Ethernet (PoE)/Or 24VAC(24VAC model offered then Industrial grade PSU to be supplied with housing) 8.Should be CE and UL Certified Housing must be from the camera OEM.
3	**External IR Illuminator**	
i.	Type	High efficiency ultimate SMD LED technology
ii.	Distance	Minimum 90 meter or better
iii.	Construction	Rugged Weatherproof, IP 66 or better
iv.	Operational Temperature	Should be same as offered camera temperature
v.	Power	Input Power 230 VAC/POE++
vi.	Other feature	Automatic On/Off facility
		Beam pattern up to 60 Deg or better
vii.	Certification	CE & FCC and UL

24.3.5 2 MP 30X IR PTZ

Sl. No.	Camera Characteristics	Minimum Specification
1	Image device	1/2.8"Progressive Scan CMOS or better
2	Horizontal Resolution	Minimum 2MP or better
3	Frame Rate	25 FPS (Minimum) in all resolutions and support up to 60 FPS
4	Compression	H.265 and H.264
5	Streaming	Minimum 3 (three) streams
6	Panning Range & Speed	0 deg to 360 deg endless, max 240 deg per second
7	Tilting Range and Speed	0 to 15 deg above horizontal to 90 deg down, max 145 deg per second
8	Presets	50 presets or higher
9	Pre/Post Alarm buffer	Yes
10	ID/Password	User ID/Password
11	Encryption	HTTP (SSL/TSL)
12	Physical Layer	10/100 base Tx Ethernet
13	Protocol	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP,FTP, ARP, DHCP, NTP (SNTP), SNMP (V1, V3, MIB-II),802.1x, DNS, DNSv6
14	IP Support	Static/dynamic or both
15	Remote Administration	Remote configuration and status using web based tool
16	System Update	Remote system update over Network using web client
17	Web Client	Viewer through HTTP(min.) System Configuration Setting/Streaming
18	Simultaneous Connection	5 users or more
19	Lens Type	30X Optical Zoom

Sl. No.	Camera Characteristics	Minimum Specification
20	IR Distance	150 Meter or better
21	Wide Dynamic Range	True WDR 100dB or equivalent or better (As per IEC 62676 part 5)
22	Auto Exposure	Automatic Level Control/Electronic Level Control
23	Minimum illumination	Color: 0.1 lux, FI.4 0Lux in IR Mode
24	Motion Detection Zones /	4 or higher privacy zones
25	Auto Gain Control	Yes
26	Electronic Shutter	1/50-1/10000 or better (in lieu of verification of electronic shutter speed OEM certificate shall be acceptable)
27	White Balance	Yes
28	Edge Storage	Each camera be supplied with Compatible 128 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1
29	Operating Temperature	Up to 50 degree Celsius
30	Power Source	Device shall work on HPoE . Suitable HPOE Power injector or 230V AC power adaptor shall be included
31	On Screen Display	Yes (English)
32	Housing - Outdoor	Plastic/Aluminum Construction with IP-66, built in heater/IK10 rated, inbuilt dehumidification device, preferably outer glass body shall be coated with special coating to remove rainwater automatically to have clear view
33	Mounting bracket	Standard wall mount for indoor& pole mount for outdoor as indicated in the supply order

24.3.6 Joystick

Sl. No.	Parameter	Minimum Specification
1	Keyboard Panel	Electromechanical
2	Joystick	3-axis(zoom, focus, iris)
3	video-wall display	Yes
4	Network Mode/ Interface	RJ45(1 RJ-45 port (10/100/1000M)) / USB

24.3.7 CCTV Tester

Sl. No.	Minimum Specification
1	The proposed device should be ONVIF compliant/ compatible with the offered camera make and models and Pelco P& D protocol from Day 1
2	Should have inbuilt minimum 7-inch HD Screen
3	Should have 1 BNC, 1 POE RJ 45 Port and 12 VDC output
4	Should come with in-built Li-Ion Battery, Charger and carrying case.
5	Alternatively, the bidder may propose a rugged Tablet with offered VMS client license/ Mobile Application loaded and an wireless battery powered POE injector kit/camera testing kit from the Camera OEM/Any other reputed OEM.

24.3.8 VMS & VCA

Sl. No.	Minimum Specification
1	The proposed video management system software should be able to support minimum **150 CCTV Cameras per Server o**r better for management and recording. Proposed VMS should be scalable up to 1200 cameras and unlimited client and Server without any restriction. 700 camera licenses to be provided from Day 1.
2	In the event of the camera losing connectivity with the central servers, the camera should automatically start recording on the local storage. Once the connectivity with the central server is restored, these local recordings should be automatically merged with the server-based recordings.
3	The proposed solution should be supplied with required hardware, software / Appliance and local storage in high availability mode to keep archival for minimum 90 days. The solution should have recording, database and management servers in HA Mode (auto failover) with adequate configuration for best performance. The VMS solution shall support failover architecture for both management and recording servers.
4	The system should support automatic failover for recording servers. The allocation of Cameras to recording servers shall be done.
5	VMS should support video streams up to 60 Frames per Second for all cameras in different resolutions
6	The VMS should have user interface that provides one-click access, drag-drop, context menu, shortcut keys, customizable GUI etc.
7	Simple, clear documentation including User Guides (how to use the product) and Technical Reference Manuals (quick reference on function and procedures) shall be submitted
8	System should be able to implement software upgrade without requiring all hardware components to be reconfigured. Automatic fault tolerance for robust system uptime and Distributed database and video storage. The system should be able to define critical cameras.
9	Roles based user management: User, roles, rules and privileges should be stored on the central VMS server.
10	The System should not restrict the number of recording servers. Should support dual streaming. Should allow each stream to be viewed independently by client viewer.Recording from connected cameras should be stored in database. Should support multiple storage formats
11	There should be customizable recording retention period for specific camera, group, area etc.
12	Should support at least 5 concurrent remote users
13	Update of hardware drivers & firmware free of cost VMS version upgrade at no extra cost.
14	The VMS should have ability to easily install, configure, modify, search and remove surveillance devices with automatic discovery of IP devices.
15	Advanced option to install other devices like encoders , microphone for Full duplex communication, Alarm modules etc.
16	Provision for primary and backup storage settings for individual camera feeds
17	The VMS should have ability to configure multiple streams with different quality parameters e.g. Codec (H.264, **H.265**, MPEG, JPEG) resolution, frame & bit rate etc. The VMS shall support end to end encrypted streams with cameras supporting SRTP or equivalent encryption both in Unicast and Multicast.
18	Should support audio and license for integration of Audio/PA system with all cameras to be provided from Day 1 without any additional cost.
19	Basic recording options (Full , Scheduled recording , Motion detection recording, external/internal hardware or software events / trigger based)
20	Advanced recordings options (Video only, Audio only, Video plus Audio, Retention rules, Archive/backup rules, and storage limits etc.)

Sl. No.	Minimum Specification
21	PTZ configuration including presets, patterns, patrolling, masking , priority and permissions.
22	It should have support for browser-based administration and monitoring
23	Multiple Monitor Support: The system should allow connecting multiple monitors on single client workstation (loaded with suitable graphics card) and display different contents on each of the connected
24	PTZ controls: When PTZ is deployed and enabled, system should offer a separate control panel for control.
25	System should allow creating a still image from live or recorded feed.
26	Digital zoom to enlarge portion of an image
27	The VMS should have provision to Start/Stop Recording manually
28	Evidence export feature: The system should allow users to export audio/ video evidences in password protected and verifiable encrypted format using proprietary Video player.256-bit encryption while exporting video. If the video is tampered that should get detected by the player. The proposed VMS platform version must have international recognized certification like UL/ISO/Cert-IN empaneled organization for Cyber Security standard. OEM need to submit copy of certification.
29	Video Lock: The system should allow users to lock the relevant portion of video recording.
30	The system should have in-built event/alarm management module that allows generating. Distributing, storing, tracking and reporting of incidents and events as they occur. Send email and SMS notifications to respective users.
31	It should be able to generate customized reports
32	The system should have inbuilt diagnostic facility
33	The facility should be there to extract & save the video footages / images on CD, DVD, USB, External Storage etc.
34	Failover- Automatic switch of user selected cameras to back-up server in case of failure. Time limit of failover for server, recordings and client should not be more than 30 seconds
35	VMS should support ONVIF Profile S, G and T
36	**Role Based Access to the Entire System** Various users should have access to the system using single sign on and should be role based. Different roles which could be defined (to be finalized at the stage if SRS) could be Administrator, Supervisor, Officer, Operator, etc. Apart from role-based access, the system should also be able to define access based on location. Other minimum features required in the Role Based authentication Systems are as follows: • The Management Module should be able to capture basic details (including mobile number & email id) of the Police Personnel & other personnel requiring Viewing / Administration rights to the system. There should be interface to change these details, after proper authentication. • Rights to different modules / Sub-Modules / Functionalities should be role based and proper log report should be maintained by the system for such access. • For PTZ cameras, there should be provision to specify hierarchy of operators / officers for control of the cameras from various locations.

Sl. No.	Minimum Specification
37	**Viewing & Recording: VMS OEM to submit certified storage sizing on their letter head with all parameters as per project requirement. Total 700 camera viewing, monitoring and recording license independent of type, make, firmware version to be provided by SI from Day 1.** • **All camera viewing to be done from VMS client workstations in Full resolution i.e. 5 MP in minimum 18 FPS fixed frame rate and bitrate. Simultaneous Live view of 25 cameras per client workstation in both monitor and videowall should be supported by VMS.** • **All Camera should normally record in Full HD/1920X1080/2MP resolution in Edge based motion detection mode in medium sensitivity @ 20 FPS Fixed frame rate and 1.5 Mbps fixed bit rate for 90 days.** • **Edge video to be stored in the cameras(SD cards) in same normal recording parameter and it should seamlessly get synchronized with the VMS Server and storage using ANR technology.** • **All VA, Alarm and Flag video to recorded in Full HD/1920X1080/2MP resolution @ 25 FPS Fixed frame rate and 2 Mbps fixed bit rate and should be available in the system for at least 180 days.** • **VA and Alarm video to be recorded/stored/archived in separate storage volume in the same storage box.** • **Approx. 30% of the recorded video may be considered as Alarm/VA recording(As per OEM sizing only indicative).** • **VMS should support time based, Alarm based and VA based video record searching from client for at least 10 cameras simultaneously.** • **VMS should be able to generate stitched video footage from multiple cameras (at least 4) to create a single evidence video using inbuilt tool.**
38	**Alarm Management Module** a) The alarm management module shall allow for continuous monitoring of the operational status and event-triggered alarms from various system servers, cameras and other devices. The alarm management module shall provide a real-time overview of alarm status or technical problems while allowing for immediate visual verification and troubleshooting. b) The alarm management module shall provide interface and navigational tools through the client including Intuitive navigation using a map-based, hierarchical structure with hyperlinks to other maps, servers and devices or through a tree-view format. c) The module shall include flexible access rights and allow each user to be assigned several roles where each shall define access rights to cameras. d) Basic VMS should be capable to accept third party generated events / triggers
39	**Client system** The Client system shall provide remote users with rich functionality and features as described below. 1. Viewing live video from cameras on the surveillance system 2. Browsing recordings from storage systems 3. Creating and switching between multiple of views. 4. Viewing video from selected cameras in greater magnification and/or higher quality in a designated hotspot. 5.Using digital zoom on live as well as recorded video. 6. Using sound notifications for attracting attention to detected motion or events. 7. Getting quick overview of sequences with detected motion. 8. Getting quick overviews of detected alerts or events. 9. The VMS shall use its own streaming server to efficiently steam the videos. 10. When the VMS client is set to view the live videos in say 3x3, 4x4 and 5x5 grids, the VMS should display lower resolution, high frame rate video to avoid high bandwidth and CPU usage on the VMS client 11. When the user selects a particular camera and wants to view it in full screen, the VMS should automatically show the highest quality and high frame rate video.

Sl. No.	Minimum Specification
40	**Alarm Monitoring** 1.The VMS shall allow for continuous monitoring of the operational status and event-triggered alarms from various system servers, cameras and other devices. It shall provide a real -time overview of alarm status or technical problems while allowing for immediate visual verification and troubleshooting. 2. It shall provide interface and navigational tools through the client including; 3. Intuitive navigation using a map-based, hierarchical structure with hyperlinks to other maps, servers and devices or through a tree-view format. 4.It shall include flexible access rights and allow each user to be assigned several roles where each shall define access rights to cameras. 5. Basic VMS should be capable to accept third party generated events / triggers
41	Failover & Redundancy 1. Automated Failover recording should be provided to maintain the reliability of the system. In case of failure of one or more of primary recording servers simultaneously. Additional servers/storage required to meet this requirement should be in Contractors scope. 2. Redundant recording/Dual recording feature of the VMS should be supported by VMS. System administrator should get the privilege to configure this feature on any cameras simultaneously depend on the criticality of the cameras. 3. The VMS shall allow for audio communication using amplifier/call station connected the IP cameras in the field without any need of audio cabling from camera to control room.
42	**Video Analytics:(Either Edge based, or Server based or combination)** 1.The Video Analytics shall be designed to provide Intelligent Video Analysis for 24/7 surveillance with support for devices from different vendors. 2. Support system openness without using any proprietary format 3.Support commercial-off-the-shelf computing hardware without the need of any proprietary hardware 4. Able to produce reliable analytics at lower resolutions like 4CIF resolution in order to save the computation 5. Able to process at variable resolution and frame rate when if necessary 6. It shall support open platform Video Management System (VMS). 7. It shall provide ONVIF device discovery 8. It shall get video from camera or VMS and send alarms to VMS to be viewed in VMS client 9. It shall stream the Analytics Video to VMS using open interface protocol like ONVIF 10. It shall support multiple regions of analytics on single video feed. 11. It shall support multiple features to be enabled for each of the regions. 12. It shall support feature-based scheduling so that that alarms can be enabled or disabled for a certain period of time. 13. It shall support both Virtual line and Virtual area-based features. The virtual area can be of any shape and can be bound by at least 10 end points. 14. It shall support both indoor and outdoor environment 15. It shall support setting of minimum and maximum object size for detection. 16. It shall support masking of area in a view. 17. It shall support object masking. 18. It shall support analytics capability to run both on server as well as edge (on camera). 19. It shall support simultaneous running of different features both on edge as well as server for same Camera 20. It shall support camera type and make independent licensing.

Sl. No.	Minimum Specification
43	Suspicious incident detection 1. It shall detect person loitering in a virtual area for more than a pre-defined period. **Approx. 75 camera license required.** 2. It shall detect crowd assembling in a pre-defined area. The count for the crowd determination should be pre-defined. It shall be able to provide live crowd count**. Approx. 50 Camera licenses required.** 3The VA shall support dense and sparse crowds for crowd counting and crowd flow detection. **Approx. 50 Camera license required.**
44	**Other Type of VA** Automatic Number Plate Recognition- **8-10 Camera License required.** Perimeter Wall: Camera tampering, Scene Change, PTZ based object tracking, Line Cross detection, Tripwire, Trespass etc. **Approx. 50 Camera licenses required.** Entry Exit Gates: Vehicle Classification- Type, Make & Color.- **Approx. 10 Camera License required.** Near People Entry Gates: People Counting, Queue Management- **Approx. 10 Camera licenses required.** All Inside Roads: Vehicle Over speeding, No Parking Violation/ Illegal Parking Detection, Un Attended Baggage etc. **Approx. 25 Camera licenses required.** Camera tampering, Scene Change Detection.- **Required for all (700) cameras.** Critical location: Smoke & Fire detection- **Approx. 50 Camera license required.**

24.3.9 Media Converter

Sl. No.		Minimum Specification
	Type	Industrial Grade Din RAIL Mount
1	Standards and Protocols	IEEE 802.3, IEEE 802.3u, IEEE 802.3x,and SNMP
2	Basic Function	Half/Full-Duplex transfer mode for FX port
		Full Duplex Flow Control (IEEE 802.3x)
		Extends fiber distance up to 20km
		Link Fault Pass-through and Far End Fault minimize the loss caused by link failure timely
3	Ports	1 100M SC port,1 100M RJ45 port supporting IEEE802.3at
4	Wave Length	1310nm
5	Network Media 100BASE-FX	Single-mode Fiber
6	Power Supply	External power supply Industrial Grade DIN RAIL Mount
7	Safety & Emission	FCC, CE, RoHS
8	Operating Temperature	Up to 70 Deg C
9	Certification	UL & NEMA TS2
10	Transceiver	To be supplied with Ruggedized SM SFP module

24.3.10 Industrial Grade Access Switch

Sl. No.	Minimum Specification
1.	Switch must have 4/8 no. of RJ 45 POE/POE+ up to 30 watts ports (240 watts for 8 Port and 120 Watt for 4 Port) and minimum 2 × SFP ports in 4 Port and 4xSFP ports in 8 ports. SFP modules to be populated with Industrial Grade SFP from the switch OEM only.
2.	Switching bandwidth 12/24 Gbps
3.	Should be Fully manageable supporting HTTPS/SSH protocol enhances network security
4.	Supports Device Binding security function
5.	Supports SNMP v1/v2c/v3 & 802.1Q VLAN Network Management. Ethernet Ring Protection Switching (ERPS) (G.8032) or STP/Loop Guard, VLAN (802.1Q) with VLAN tagging support, IGMP v2/v3 (IGMP snooping support) and MLD v1/v2 for filtering multicast traffic, Voice VLAN Support.
6.	Web-based, Telnet and Console (CLI) configuration, and Windows-based monitoring
7.	Supports Jumbo Frame up to 8.9 KB or better for streaming video applications
8.	Should be supplied with DIN rail mount kit
9.	Operating temperature: 70 Degree or better
10.	Certification UL and NEMA TS2/IP 30, EN61000-4-5 (Surge)/IEC61000-4-5 (Surge). The OEM should have 24X7 India TAC center with toll free number starting with 1800 xxxx.

24.3.11 Indoor 24 port Access Switch

#	Minimum Specification
1	Shall be 19" Rack Mountable. Should have required accessories for rack mounting. Hot swappable PSU and field replaceable FAN
2	Should have POE+ 24x RJ45 10/100/1000 auto-sensing ports,4 x SFP+ ports Populated with 2 x 10 gig LR, should be from Switch OEM. Minimum 1000Watt POE budget with dual power.
3	Switch Should have stacking up to 8 units and 80Gbps Stacking Bandwidth.
4	Should be a non-blocking switch with Switch fabric capacity: 200 Gbps and forwarding rate of 150 Mpps
5	Should have minimum 32000 MAC address entries, minimum 4000 Active VLANs.
6	Should have complete IPv6 readiness. Static Routes & OSPF from day one
7	Should have LAG load balancing and VLAN tagging.
8	USB port for easy config & firmware image upload
9	Should support ACLs and Layer 3 functionality including static routing and Routing Information Protocol or OSPFv3
10	Should support DiffServ, port based QoS, WRR, strict queue scheduling
11	Should support UDLD/ equivalent, STP, RSTP, MSTP.
12	Should support STP, MSTP, minimum 8 hardware queues per port, SP queuing or equivalent, LLDP-MED.
13	Should have 802.1x, RADIUS, TACACS+, IGMP v1/v2/v3 snooping
14	Should support cross-stack ether channel or equivalent.
15	Should have RSPAN, VRF-Lite

#	Minimum Specification
16	Switch should be manageable through NMS on per port/switch basis. Should Support SNMP, RMON, SSH, telnet, network management software.
17	RSPAN, Private VLAN.
18	Switch should have minimum 1GB RAM and 1GB FLASH /SSD.
19	Should operate at 220VAC ~50Hz.
20	Should have internal redundant power supply.
21	Should be RoHS, 802.3az EEE, REACH compliance. Switch or its operating system should have EAL/NDcPP certified at the time of delivery of the Switch. OEM duly signed letter to be submit with the bid for confirmation with dates. The OEM should have 24X7 India TAC centre with toll free number starting with 1800XXXX.

24.3.12 24 Port Distribution Switch

Sl. No.	Minimum Specification
1	Switch should be fixed form factor with full Enterprise Layer 3 image supporting IPv6 and BGP with the latest Firmware as available with Line rate non-blocking performance.
2	The switch should support Minimum 24 x 10Gbps SFP+ port and 2XQSFP28 port
3	400 Gbps HA bandwidth should be offered from Day 1
4	10G-LR optic –2 no per switch. Should be from Switch OEM.
5	1G SFP Optic 12 no. and 1Gig RJ45 optic - 2 no per switch. Should be from Switch OEM.
6	The switch should support HA options in Active - Active or Active Backup configuration as required, all supporting features and licenses to be provided to support the same.
7	The switches should be interconnected to offer line rate speed as desirable.
8	The switch should support relevant 1G/10G interfaces to connect.
	Performance
9	Minimum 1 Tbps backplane or more with non-blocking performance supported by tolly/Miercom or equivalent reports
10	Minimum 80K MAC addresses and ARP table
11	Switch should have 8GB RAM and 32MB packet buffer
12	4K 802.1Q vlans with 4K vlan ID support
	Networking Features
13	Should support L3 routing in hardware for both IPv4 and IPv6 packets
14	Should support 64K route table capacity for IPv4 and IPv6 in hardware.
15	Should support Static Route, OSPF, BGP from Day one for both IPv4 and IPv6 considering all License, software, hardware upgrades required if any.
16	Should support 8 ports upto max 128 LAG groups, should be able to LAG across switches
17	Switch should support BGP-EVPN, VRF, VXLAN, PFC, ETS/equivalent DCBX, ECN etc.
18	MLD/MLD Snooping, IGMP Snooping v1/v2/v3, PIM technologies
	Security Features
19	Should support all AAA functions with RADIUS and TACACS integration.
20	Should support various strom control functions.
21	Should support 802.1x implementation using RADIUS

Sl. No.	Minimum Specification
22	Should support Ingress and Egress Acls
	Management Function
23	Should support encrypted communication between the user accessing the device namely using all access methods CLI, SSHv2, SSL, and SNMPv3 and Secure FTP/TFTP
24	Should support features like LLDP, LLDP-MED or equivalent
25	The Operating image should be modular in architecture with the industry standard CLI would be preferred along with SNMP and XML support.
26	XML/PERL/Python/API integration support should provide the ability to control IP addresses, configure both physical and logical interfaces, configure Access controls.
27	Should support sFlow or equivalent
28	Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6
	Physical parameter of switch
29	Switch should have minimum 8 GB RAM, 8 GB SSD/Flash and 8 MB packet buffer
30	AC 120/240 V (50/60 Hz)
31	The proposed switch should be offered FANs module and Power supply Redundancy.
32	Operating temperature: 32° to 104°F (0° to 40°C)
33	AC 120/240 V (50/60 Hz)
	Compliant Standards:
34	Should be ROHS Compliant, IPv6 Ready for both Host and Router,
35	UL/CSA 60950-1, Second Edition EN 60950-1, Second Edition. Switch or its operating system should have EAL/NDcPP certified at the time of delivery of the Switch. OEM duly signed letter to be submit with the bid for confirmation with dates.
36	EN 300 386, EN 55024, EN 61000-3-2, EN 61000-3-3 or equivalent standards.
37	OEM warrant for 5year 24x7 Next Business Day. The OEM should have 24X7 India TAC centre with tollfree number starting with 1800 xxxxx.

24.3.13 Public Address System

Sl. No.	Minimum Specification
1	Should have the capability to control individual PAS i.e. to make an announcement at select location (1:1) and all locations (1: many)simultaneously. The PAS should also support both, Live and Recorded inputs.
2	Outdoor Network POE/POE+ IP 66 and UL 60950-22 certified Horn Speaker with built-in amplifier, SPL>95dB, two input/outputs. Open standards support easy integration with network video, access control, analytics, and VoIP (supporting SIP).
3	Indoor Cabinet/box type Network POE/POE+ Speaker with built-in amplifier, SPL>90dB with wall mounting kit and two input/output. Open standards support easy integration with network video, access control, analytics, and VoIP (supporting SIP). The speaker should be UL 60950-22 certified.
4	Microphone Console: Should support paging to several zones, built-in audio-management server for configuration and POE/POE+.
5	Audio Manager Software: An audio system from one single user interface which handles, for example, system setup of audio devices, zone management, audio content management, and audio scheduling.

24.3.14Server

Sl. No.	Minimum Specification
1.	VMS/Application / Database/ Recording / Viewing / Other Servers
2.	Latest Gen 2x Intel Xeon/AMD 16 Core 64 Bit Processor 2.9 GHz or better base performance
3.	64 GB of RAM @ 2933 MHz DDR4 ECC or better Server Class Memory
4.	2x 600 GB 10k rpm hard disk for OS & Applications configured in RAID 1
5.	RAID- 5 configured from DAY 1
6.	4x GbE Network Interface Card or higher bandwidth interfaces
7.	To be supplied with suitable HBA cards for connecting with SAN/Server Farm switch and storage box
8.	Interfaces : D-sub VGA/HDMI/DVI and 4 x USB 3.0 or better
9.	Enterprise SAS/SATA 2.5”/3.5"; Hot Swappable
10.	Certifications/Regulatory Compliance for hardware – UL,CE,FCC, BIS(wherever applicable)
11.	Operating System: Licensed version of 64 bit Server Edition latest version of Microsoft® Windows based Operating system
12.	Form Factor-Rack mountable/ Blade. *All Server scaling/sizing to be done in such a manner that the it should fit inside 1 single supplied Server Rack and get connected with the Storage box in the same Rack. No separate Rack will be considered for Servers and Storage box.
13.	Virtualization-Shall support Industry standard virtualization hypervisor like Hyper-V/ VMware.
14.	Dual Redundant Hot Swappable PSU

24.3.15 Monitoring Workstation

Sl. No.	Minimum Specification
1.	**Latest Generation Intel/AMD 64 Bit 3GHZ or better Processor**
2.	Minimum 2X8 GB DDR4 Memory. Slots should be free for future upgrade
3.	4 GB GDDR5 AMD/NVIDIA Professional Graphics Card supporting 3 no. of 4K Monitor output
4.	Dual Gigabit Teamed NIC from Day 1
5.	2X 1 TB 10 K RPM HDD
6.	64 Bit Licensed Windows and Antivirus with license for 5 years pre-loaded.
7.	SMPS: Power supply should be 90% efficient with EPEAT Gold certification for the system.
8.	To be supplied with OEM Keyboard and Mouse
9.	Each workstation to be supplied with 2 no. of 24" Energy star 5.0/BEE star certified Full HD LED monitor TCO 05.

24.3.16 Storage

Sl. No.		Minimum Specification
1	Functional Requirement	The storage System mentioned below shall meet the following functional requirement- All camera footage motion detection recording and PA feed for 90 days and All VA, Alarm and Flag video to recorded in Full HD/1920X1080/2MP resolution @ 25 FPS Fixed frame rate and 2 Mbps fixed bit rate and should be available in the system for at least 180 days. For detail storage parameters refer to VMS specification. Apart from video footage the storage system should also have space for keeping database, system log of entire system for 6 months.

2	Type of Storage	The Storage Solution should be based on multiple controllers with Data Assurance in active-active mode configured in a NSPOF and End-to-End Data Protection.
3	Controllers and Architecture	All storage nodes/controllers must be active, contributing in performance and capacity of the system
		Storage Solution Should be Fully Symmetric or asymmetric and distributed clustered Architecture written for Scale-Out Storage. It should be without any disruptions/downtime to production workflow for performance. capacity enhancement, software/firmware upgrades. Storage must be capable to expand performance with capacity, linearly. All storage nodes/controllers must be active, contributing in performance and capacity of the system. The scale-out Storage OS should not be based on General Purpose OS.
4	Network Ports	Vendor shall size the number of ports for client connections and internode connectivity as per solution and performance requirement
5	Disk Type	The system must support intermixing of SSD , SAS and NL-SAS/SATA drives to meet the capacity and performance requirements of the applications.
		The storage should be configured with FCP& iSCSI protocols. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode. System should support SAS, NVMe-FC, NVMe-RoCE protocol & connectivity.
		Storage system should support SSD cache. Storage should have Energy star rated Platinum power supplies. The proposed system should sup-port 99.99% reliability.
		The system should support instant creation of clones of active data
6	Total Storage Capacity	1.5 PB usable capacity on RAID 6 with 8D+2P on NLSAS using multiple controllers. Should be configured with 1.6 TB SSD cache for each controller pair from Day 1.
		The storage should be scalable up-to 4.5 PB as a single filesystem and a single global namespace.
		Should support various RAID levels 0, 10, 5, 6
7	Supported Protocol	All industry standard storage protocols MUST be included without additional licenses and hardware.
8	Licensing	Offered storage shall be provided with license for complete offered capacity. Offered Capacity license shall also include the license for Snapshot, Clone, Tiering, multi-tenancy etc.
9	Warranty	5 years comprehensive OEM onsite warranty support along with upgrade and updates.

24.3.17 NTP Server

Sl. No.	Minimum Specification
1	Stratum 1 GPS Synchronized Time Server with Automatic satellite acquisition/synchronization
2	NTP requests per second>700
3	NTP Authentication MD5/SHA1
4	Network Interface minimum 1 no. 10/100 Ethernet Port+ HW Time Stamp
5	Should be Password protected and come with Simple to use time server configuration software
6	Should maintains time during power loss
7	Should be supplied with outdoor GPS antenna, connector and cable
8	Should support Unicast, Multicast and Broadcast
9	Alert notifications via SNMP Traps, SNMPv2, SNMPv3
10	Should support IPv4 and IPv6
11	Product should be UL certified and come with 5-year warranty and support from the OEM
12	To be configured as NTP server for all network nodes in the system.

24.3.18 AIM Solution Including Intelligent Passive Hardware

Sl. No.	Minimum Specification
A.	**AIM Connectivity Specs - Software**
1	**AIM solution must be Based on software & designated Hardware -** The solution should be based on a designated Hardware which deliver physical connectivity information to the management software
2	**Automatic Detection of IP Assets and Assignment** – The software should automatically discover all IP devices in the network including; IP Cameras, Servers, PCs, switches and other IP equipment and assign their locations in real time.
3	**Device information -** The software should provide information about the MAC id, IP and Host Name of the IP devices connected to the network.
4	**Automatic tracing**– the solution should not only detect but should also track the devices when they move from one location to another in real time.
5	**Complete link information** - The solution should automatically provide complete linkage information (from switch port up to the end device) in graphical format, providing full end-to-end visibility and automatic updates of new locations when moves occur.
6	**Alerts on Connectivity changes**– The solution should report any changes on patching information in real time through physical verification only and not through any other method.
7	**Real time view of Communication Racks** – The solution should provide information of the rack layout in graphical view and allow interaction with displayed information in real time (e.g. lighting an LED over a panel port remotely). This is extremely important for remote site management.
8	**LED guidance based Scheduled Work Orders** – The solution should have the capability to create and assign work orders to technicians. It should -
	· Ensure the ability to create, assign and monitor the status of any work order to any technician.
	· Warn of a mismatch between requested activity and real status through ongoing scanning activity and LED guidance.
	· Automatically update the database upon completion of task.

9	**Utilization Module** – The solution should be capable to collect information of the activity at each switch port & identify unused switch ports. This is necessary to optimize the usage of switch ports.
10	**GUI –** The system should provide an easy to use GUI to create any custom made switch of any vendors, with real images from the switch manufacturer. The switch should be managed by SNMP and provide graphical link of switch connectivity to every component in the channel.
11	**Graphical View** - The solution should come with a built in graphical view capability of the complete floor plans and should be able to import files in any of the following formats: jpeg, bmp or dwg. This should show the geographical locations of each asset in the entire network.
12	**3D view of Racks** - The solution should come with a built in graphical view capability of 3 Dimensional view of racks and cabinets. This should allow seeing components from the back of cabinet, side view of cabinet etc.
13	**ICONs -** The system should provide to customize icon size like Rack, Outlet, PC etc. based on the CAD diagram resolution.
14	**Enhanced Security** – Should be able to identify between unauthorized and authorized changes on the network connectivity and send alerts accordingly.
15	**Alerts** – The solution should have in place the option to send alerts either through email, sms, pop-up messages at client end and pop-up messages to Dashboard.
16	**Database** - The database should be using an open database to enable easy integration.
17	**Device detection**- The solution should allow automatic discovery of devices through a schedule as well as through SNMP port trap triggers.
18	**Secure / Critical Links** - The software should provide capability to mark all the critical links as special and should be able to generate alerts or test the network connectivity status directly of such devices. Any changes on such links should be shown with special colors to immediately identify the changes made.
19	**Port Status -** The system should provide different colors to specify the panel ports status; Different colors should define information like Ports in use, Ports Available, Ports Reserved, Ports Connected, Ports not connected. The color of the port should indicate the status.
20	**Remote Sites -** The solution should provide the capability to automatically monitor 24/7 of remote sites network links and verify network availability all the time. In case of a link brake, the solution should send a real time event & alarm.
21	**Remote DB -** The solution should provide the capability to automatically connecting to a remote DB sites as well as to a local DB
22	**Location Based User Access -**The system should provide permission to access the customer information based on location. If there is multiple location, then the user from respective location should access and see the information relevant to them/location.
23	**What If Analysis -** The solution should provide the capability to analyze the scenario of power failure and the power failure amplification on the terminal equipment. The analyzing method should be based on a graphical map layer.
24	**Rack Capacity Management -** The solution shall be able to maintain a record of the rack capacity and utilization including:

	· Total rack space and occupied rack space
	· Total number of available IIM panel ports
	· Total number of non-IIM panel ports
	· Total number of switch ports and "switch utilization"
25	The solution should be capable of tracking device history for networked end devices including the following forensics details:
	When device was first connected to the network
	If and when it was removed from the network
	If and when it was moved from one physical location to another
	How long it has been active or inactive.
26	Asset, configuration and change management
	1. The solution should be fully comply with ANSI/TIA 606-B (including B-1) and ISO/IEC 18598 standards.
	2. The solution should deliver physical connectivity information to the management software.
	3. The solution should be a complete Real Time Interconnect Solution and should provide alerts for:
	a. Patch cord connections or disconnections from the patch panel.
	b. Patch cord connections or disconnections from the switch.
	c. Inter-changing of patch cords at the switch side.
	d. Inter-changing of patch cords at the panel side.
27	These alerts should be patching connection or disconnection alerts. These should show exact information about the panel port or switch port which got disconnected or connected and end to end link information.
28	The Physical Layer Management solution should be strictly based on the physical detection of patch cord connectivity.
29	The Intelligent Physical Layer Management Solution should have guidance lights per port. The light guidance is mandatory for tracing the two ends of any patch cord, executing planned work orders and for remote management.
30	The lights per port on the panels should be powered from the scanning devices and should not require a separate power supply.
31	The intelligent panels should have the necessary intelligent hardware and light indicators integrated within the panels. Retrofits are not an option.
32	The panels should be passive and the panels should not require any power for operation of the intelligent management solution.
B	**Intelligent Fiber Trays and Fiber LC Cassettes**
1	The Fiber Tray should support interconnect / Cross connect network topologies. Cross connect patching withing a single frame should be supported with a minimum length patchchord
2	The Fiber Tray should supports three types of fiber patching options: LC-LC, LC-MPO, and MPO-MPO. And should support cross connection within the same frame using a short cross connect patchchord.
3	The Fiber Tray should supports both Single-Mode (SM) and Multi-Mode (MM) OM4 fiber types.
4	The Fiber Tray should be a high-end fiber optics-managed tray that supports up to 96 LC-LC fiber strands in 1 U (LC-LC and LC-MPO) along with a full management system.

5	To assist in monitoring, configuring, and troubleshooting, the Fiber Tray should include a color LED on the tray and a single LED above each port in the cassette.
6	The Fiber Tray should contain a push button that enables you to initiate manual port scanning for viewing system connectivity.
7	The solution should be able to detect removal of individual cassettes from the panel.
8	LEDs for each port on the front panel (that is, one LED for each fiber). LEDs showing the status of ports.
9	Fiber Intelligent Patch Cords should support cross-connect topologies and patching within the same frame to save U space.
10	The patchchord should be intelligent and have two Intelligent ID contacts / keys on patch chords.
C	**Scanning Hardware**
1	Should support mixed cross-connect and interconnect network topologies
2	Should allow ease of expansion, control, and management of an unlimited number of ports in real time.
3	Should support copper and fiber solutions, both individually and in a mixed configuration in the same system, with 10 Gbps and 40/100 Gbps.
4	Solution does not interfere with the actual network data. Therefore its communication over the network does not cause any load on the network.
5	Each scanning hardware should support minimum 12 numbers of 1U , 96 LC Fiber ports.
6	The scanning hardware should supports up to four TCP/IP ports through an internal L2 switch, saving on ports in the main switch and enabling cascading of scanning hardware to provide unlimited network expansion.
7	The Scanning hardware should support installation in zero-U configuration for rack space optimization. in case its needed the device can be installed also in 1U configuration.
8	Scanning hardware should be low Power Consumption device (typically 10 - 15 W)
9	The scanning hardware should connect with Intelligent Panels via normal RJ45 Patch cable.
D.	**Minimum Hardware BOM For Backbone Intelligent Passive Solution-1 Lot including all the following items**
1	19" 1U Intelligent Tray - 8 nos
2	LC LC Intelligent Cassette SM, 24F and Splice Tray- 32 nos
3	LC SM Pigtail 1m- 444 nos
4	LC LC Cross Connect Intelligent Patch cord SM 3m-126
5	Intelligent Controller-1
6	Panel Controller Card- 16 nos
7	Panel Controller Patch Cord 3m- 8 nos
8	Panel Controller Patch Cord 5m-8 nos
9	AIM Intelligent Software as per Above specification for 1000 nodes.

24.3.19 Two Factor Authentication

Sl. No.	Minimum Specification
1	Should include USB/Hardware OTP Tokens compatible with supplied 2 factor authenticator software. Minimum 25 no. of tokens to be supplied.
2	On-premises applications with out-of-the-box interoperability
3	Should be also supplied with 25 user license and compatible Android mobile App 24X7 operational for 5 years
4	Should be also tagged with phone no. of each user configurable from the supplied application to be installed in server.
5	Tokens to be provided to all authorized Police users and department users with different rights configured as per final defined configuration and security testing parameters during acceptance test.
6	All other necessary software license as per functional requirement to supplied with 5 years support from the OEM

24.3.20 Core Switch

Sl. No.	Minimum Specification
1	Switch should be chassis or fixed form factor with full Enterprise Layer 3 image supporting IPv6 with the latest Firmware as available with Line rate non-blocking performance.
2	The switch should support Minimum 24 x 10Gbps SFP+ port and 4 x QSFP28 port
3	Each switch to be supplied with following Optic, DAC cables for 40G as mentioned with appropriate Port licenses as required
4	40GbE AOC/DAC 3 meter cable - 01 nos used for Interswitch connectivity to form HA per switch
5	10G-SR optic – 20 nos per switch, 10G-LR optic - 2 nos per switch. Should be from Switch OEM.
6	1Gig RJ45 optic - 2 nos per switch. Should be from Switch OEM.
7	The switch should support HA options in Active - Active or Active Backup configuration as required, all supporting features and licenses to be provided to support the same.
8	The switches should be interconnected to offer line rate speed as desirable.
9	The switch should support relevant 1G/10G/25G/40G/100G interfaces to connect.
	Performance
10	Minimum 1.2 Tbps backplane or more with non-blocking performance supported by tolly/Miercom or equivalent reports.
11	Minimum 80K MAC addresses and ARP table
12	4K 802.1Q VLAN with 4K VLAN ID support
	Networking Features
13	Should support L3 routing in hardware for both IPv4 and IPv6 packets
14	Should support 64K route table capacity for IPv4 and IPv6 in hardware.
15	Should support Static Route, OSPF, BGP from Day one for both IPv4 and IPv6 considering all License, software, hardware upgrades required if any.
16	Should support 8 ports up to max 128 LAG groups, should be able to LAG across switches

17	Switch should have BGP-EVPN, VRF, VXLAN, PFC, ETS/equivalent, DCBX, ECN etc.
18	MLD/MLD Snooping, IGMP Snooping v1/v2/v3, PIM technologies
	Security Features
19	Should support all AAA functions with RADIUS and TACACS integration.
20	Should support various storm control functions.
21	Should support 802.1x implementation using RADIUS
22	Should support Ingress and Egress ACLs
	Management Function
23	Should support encrypted communication between the user accessing the device namely using all access methods CLI, SSHv2, SSL, and SNMPv3 and Secure FTP/TFTP
24	Should support features like LLDP, LLDP-MED or equivalent
25	The Operating image should be modular in architecture with the industry standard CLI would be preferred along with SNMP and XML support.
26	XML/PERL/Python/API integration support should provide the ability to control IP addresses, configure both physical and logical interfaces, configure Access controls.
27	Should support sFlow or equivalent
28	Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6
	Physical parameter of switch
29	Switch should have 8 GB RAM, 4 GB SSD/Flash and 32MB packet buffer
30	AC 120/240 V (50/60 Hz)
31	The proposed switch should be offered FANs module and Power supply Redundancy.
32	Operating temperature: 0° to 40°C
33	AC 120/240 V (50/60 Hz)
34	The proposed switch hardware design FAN should offer front to back air flow mechanism to manage the hot/cold aisle environments in the server room.
	Compliant Standards:
35	Should be ROHS/REACH/ Compliant, IPv6 Ready for both Host and Router,
36	UL/CSA 60950-1, Second Edition EN 60950-1, Second Edition. Switch or its operating system should have EAL/NDcPP certified at the time of delivery of the Switch. OEM duly signed letter to be submit with the bid for confirmation with dates.
37	EN 300 386, EN 55024, EN 61000-3-2, EN 61000-3-3or equivalent standards
38	OEM warrant for 5year 24x7 Next Business Day. The OEM should have 24X7 India TAC centre with tollfree number.

24.3.21 Server Firm Switch

Sl. No.	Minimum Specification
1	Switch should be chassis or fixed form factor with full Enterprise Layer 3 image supporting IPv6 with the latest Firmware as available with Line rate non-blocking performance.
2	The switch should support Minimum 24 x 10Gbps SFP+ port and 2 x QSFP28 port
3	Minimum 200Gbps HA bandwidth should be offered from Day1
4	10G-SR optic – 10 no. per switch. Should be from Switch OEM.
5	1Gig RJ45 optic - 2 no. per switch. Should be from Switch OEM.

6	The switch should support HA options in Active - Active or Active Backup configuration as required, all supporting features and licenses to be provided to support the same.
7	The switches should be interconnected to offer line rate speed as desirable.
8	The switch should support relevant 1G/10G/40G/100G interfaces to connect.
	Performance
9	Minimum 1 Tbps backplane or more with non-blocking performance supported by tolly/Miercom or equivalent reports.
10	Minimum 80K MAC addresses and ARP table
11	4K 802.1Q VLAN with 4K VLAN ID support
	Networking Features
12	Should support L3 routing in hardware for both IPv4 and IPv6 packets
13	Should support 64K route table capacity for IPv4 and IPv6 in hardware.
14	Should support Static Route, OSPF, BGP from Day one for both IPv4 and IPv6 considering all License, software, hardware upgrades required if any.
15	Should support 8 ports up to max 128 LAG groups, should be able to LAG across switches
16	Switch should have BGP-EVPN, VRF, VXLAN, PFC, **ETS/equivalent**, DCBX, ECN etc.
17	**MLD/MLD Snooping**, IGMP Snooping v1/v2/v3, PIM technologies.
	Security Features
18	Should support all AAA functions with RADIUS and TACACS integration.
19	Should support various storm control functions.
20	Should support 802.1x implementation using RADIUS
21	Should support Ingress and Egress ACLs
	Management Function
22	Should support encrypted communication between the user accessing the device namely using all access methods CLI, SSHv2, SSL, and SNMPv3 and Secure FTP/TFTP
23	Should support features like LLDP, LLDP-MED or equivalent
24	The Operating image should be modular in architecture with the industry standard CLI would be preferred along with SNMP and XML support.
25	XML/PERL/Python/API integration support should provide the ability to control IP addresses, configure both physical and logical interfaces, configure Access controls.
26	Should support sFlow or equivalent
27	Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6
	Physical parameter of switch
28	Switch should have 8 GB RAM, **4 GB SSD/Flash** and 32MB packet buffer
29	AC 120/240 V (50/60 Hz)
30	The proposed switch should be offered FANs module and Power supply Redundancy.
31	Operating temperature: 0° to 40°C
32	AC 120/240 V (50/60 Hz)
	Compliant Standards:
33	Should be ROHS Compliant, IPv6 Ready for both Host and Router,
34	UL/CSA 60950-1, Second Edition EN 60950-1, Second Edition. Switch or its operating system should have EAL/NDcPP certified at the time of delivery of the Switch. OEM duly signed letter to be submit with the bid for confirmation with dates.

35	EN 300 386, EN 55024, EN 61000-3-2, EN 61000-3-3 or equivalent standards
36	OEM warrant for 5year 24x7 Next Business Day. The OEM should have 24X7 India TAC center with tollfree number starting with 1800XXXX.

24.3.22 Videowall

Sl. No.	Minimum Specification
1	**Panel**
2	24X7 Operational Full HD 55" IPS Panel having HDMI and Display input ports. Product Should have EMC certificate.
3	Brightness: Max 500 cd/m2
4	Contrast Ratio: 1000:1
5	Viewing Angle:178 Deg or better
6	Response Time: 10ms or better
7	Detachable IR Sensor
8	Bezel Width- 0.44 mm or better
9	Dynamic compression ratio- 30,000:1
10	Should have minimum 2 USB ports
11	Should support auto source switching and recovery
12	Typical Power consumption:225 watt or better
13	To be supplied with all front accessible Push/Pull wall mounting bracket/kit and accessories as per site requirement.
Videowall Processor	
13.	Should support 4 no. 4K input and 12 Full HD output
14.	Should be fully compatible with supplied panels
15.	Should be preferably get connected with the workstations directly with HDMI/DP ports without any converter
16.	Should be preferably get connected with the Panels directly with HDMI/DP ports without any converter
17.	Maximum Video Processing Data Rate:4Gbps
18.	Controller should be an Enterprise Grade Rack mountable **UL Certified box** with redundant hot swappable PSU, Windows OS and RAID configured.
19.	To be supplied with compatible controller hardware and video cables, accessories as per requirement and GUI based wall management software with KVM and Remote management feature Videowall processor Should support HDMI Audio Input and output. To be supplied with minimum 2no. of wall mountable Cabinet loudspeakers, 15W with SPL 95dB from PA OEM for hearing PA audio in control room from Day1.

24.3.23 Display

Sl. No.	Minimum Specification
1	24X7 Operational, Energy Star rated, 4K/UHD 65" LED Display, Product Should have EMC certificate.
2	Brightness: Max 500 cd/m2
3	Viewing Angle:175Deg or better
4	Contrast Ratio: 1000:1 or better
5	Response Time: 10ms or better
6	Should have optional inbuilt 1.1 Ghz Processor and 2GB Memory or better
7	Should have 2 USB, HDMI and Display ports
8	Typical Power consumption:190watt/h or better
9	Operating Temperature:0°C~ 40°C

24.3.24Access Control System

Sl. No.	Minimum Specification
1	**Controller(1 no.)**
2	UL Certified POE Supported Network Door Controller supporting up to 2 doors and 2 controller.
3	Encryption:128Bit
4	Memory: Minimum 1000 and scalable to 10000
5	Digital Lock Input:2
6	Offline Mode operation in event of network failure
	Door Station/Reader(2 no.)
7	Should come with 2 MP inbuilt/external integrated wide angle camera and should be compatible with offered VMS using supported ONVIF profile.
8	Should support 2 Way full duplex Audio using SIP
9	Should support iClass/ Desfire or equivalent cards
10	Should support PIN
11	RF Card Read range minimum 3.5"
12	False Acceptance Rate: Less than 0.01%
13	False Rejection Rate: Less than 0.01%
14	Technology Compliance: iClass 15693/14443
15	Should be supplied with separate enrollment software and time attendance software supporting up to 1000 users
	EM Lock (2 no.)
16	Zinc plated CE Rated supporting up to 1200 lbs 12VDC/24VDC Electro Magnetic Lock for Single Door
17	Should be able to withstand the load of supplied entry exit doors of CMC and NOC Room
18	The above access control system to be supplied with all other connectors, control cables, brackets, Emergency Door Exit, accessories and cables required for operation as per requirement for 2 set of supplied doors.

24.3.25 60 KVA Modular Online UPS

Sl. No.	Parameter	Minimum Specification
1	General	
1.1	Nominal power (KVA)	60KVA with 3X20 or 3X25 KVA hot swappable Modular units
1.2	Active Power (kW)	Active Power (kW)- 60 KW with 0.99 Power Factor with 40KW Load from Day 1 and 45 Min or better Runtime using specified Li-Ion Battery bank.
1.3	Technology	Online double conversion; Digital Signal Processor / microprocessor-based control using IGBT device
1.4	Waveform	Sinusoidal
1.5	Architecture	Stand alone or distributed
		Dual Canbus within frame and redundant Canbus between parallel system
		Capability of independent or common battery bank operation of the UPS system when operated in parallel system
1.6	Rectifier and Inverter Type	IGBT based rectifier and IGBT based 3 Level Inverter
1.7	Accessibility	Internal front side access to speed up installation and maintenance
1.8	Cooling System	Forced Air
1.9	Phase Sequence Protection	The feature should be available

2	Input	
2.1	Input facility -Phases / Wires	3-Phase / 4-Wire & Gnd (3Phase & Neutral + Ground)
2.2	Input Voltage Range	220/380V，230/400V，240/415V
		320-475 V
2.3	Nominal Input Frequency	Up to 60Hz (Auto-Selectable)
2.4	Input Frequency Range	40 to 70 Hz
	Input Power Factor	> 0.99 (Full Load)
3	Output	
3.1	Nominal Output voltage	380/400/415 V 3 Ph + N
3.2	Output Voltage Regulation	± 1 %
3.3	Nominal Output Frequency	50/60 Hz
3.4	Output Wave Form	Pure sine wave
3.5	Crest Factor	3:01
3.6	Output Short circuit Protection	Electronic Protection
4	Maintenance Bypass	1. UPS should have option for manual maintenance bypass
5	Efficiency	
5.1	Overall Efficiency (AC to AC) - Online (Double Conversion)	Up to 96%
5.2	Overall Efficiency (AC to AC) - ECO Mode (Bypass feeding the load under normal conditions)	Up to 99%
6	Indications (LED)	Online/Battery/Bypass/Fault
7	Alarms-Audible Alarms	Battery Low beep / DC Fault beep/ UPS Overload beep/ o/p short ckt fault beep/ Shutdown beep
8	**Battery Backup / Battery Bank & Charger**	
8.1	Battery Bank Voltage	480Vdc (default)
8.2	Battery Bank	LiB
8.3	Backup Required	45 minutes on 40 kVA/ 36kW
8.4	Model & Cell Type/Cell Configuration	Prismatic, 1 P Series Type Configuration Only
8.5	Chemistry of Cell composition	NMC only
8.6	Nominal Capacity in Ah	50-100Ah
8.7	Mandatory Safety Certifications/ compliances	UL1642/ IEC 62619, UN38.3
8.8	Safety Features in LiB Cabinet	MCCB to be present & Should have inbuilt protection for Overcurrent, short circuit, Overvoltage, under-voltage & over temperature
8.9	Communication Scheme with UPS	BMS Level/Dry contact integration & communication scheme
8.10	Nominal Operating Temperature for Lithium ION Batteries	0deg C to +45deg C
8.11	Restart / Testing Capability	
a	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown
b	Battery Self-Test	Manual / Scheduled battery test to ensure healthiness of batteries.
8.12	Physical	
8.13	Operating Temperature	0 to 40 deg C full load
8.14	Operating Humidity	0 to 95% RH (Non-condensing)
8.15	Protection Class	IP – 20

8.16	Form Factor	Free Standing Floor Mounted UPS
8.17	Connections - Rectifier Input / Output / Bypass Input / Battery	Breakers for input, output, bypass & Maintenance bypass
9	Interfaces	
	Interface to NMS (Network Management System)	SNMP Card for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available
10	Restart / Testing Capability	
10.1	Cold Start	UPS should start up
		On AC Supply (Mains) without DC Supply (Batteries)
		On DC Supply (Batteries) without AC Supply (Mains)
10.2	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown
10.3	Self-Diagnosis	UPS should be capable to carry out self-test of Rectifier / Charger /Battery & Inverter module during start-up
11	Physical	
11.1	Operating Temperature	Up to 40 Deg C
11.2	Operating Humidity	＜ 95%
12	Product Safety Certifications (Mandatory)	CS: IEC61000-4-5, ETDC/ERTL Certified
		IEC 62040-1
		IEC 62040-2
		IEC 62040-3
		CE declaration of conformance
	ROHS compliance	UPS should be ROHS compliance

24.3.26 20 KVA Online UPS

Sl. No.	Parameter	Minimum Specification
1	Capacity (in kVA / kW)	20 kVA/ 20 kW 3-Phase Input / 1 or 3-Phase Output. With 60 Min battery backup on full load.
2	Technology and Capability	a) True Online configuration with double conversion UPS b) DSP based technology with reduction in electronic components. c) Fully rated power (kVA=kW) for maximum power availability. f) UPS should be designed at Rated PF of 1 i.e. 20kVA /20kW UPS rating. g) Dual Input design. h) UPS should have IGBT topology for both PFC (power factor correction) and inverter. i) Capability of independent or common battery bank operation of the UPS system when operated in parallel system j) Fan failure / life prediction and speed control
3	Input	
3.1	Input facility -Phases / Wires	3-Phase / 4-Wire & Gnd (3Phase & Neutral + Ground)
3.2	Input Voltage Range	380V, 400, 415V Range (Full Load) 305~485VAC
3.3	Nominal Input Frequency	50/60Hz (Auto-Selectable)
3.4	Input Frequency Range	40 to 70 Hz
3.5	Input Power Factor	> 0.99 (Full Load)
3.6	Current Harmonic Distortion (ITHD)	<5%

4	Output	
4.1	Nominal Output voltage for 3ϕ	380, 400, 415 Vac
4.2	Output Voltage Regulation	± 1 %
4.3	Nominal Output Frequency	50/60 Hz
4.4	Output Frequency Regulation	± 0.05Hz
4.5	Output Wave Form	Pure sine wave
4.6	Output Voltage Distortion (THDu)	< 3% (linear load)
4.7	Crest Factor	3:1
4.8	Output Short circuit Protection	Electronic Protection
4.9	Frequency Converter Mode	Available
5	Efficiency	
5.1	Overall Efficiency (AC to AC) - Online (Double Conversion)	Up to 95%.
5.2	Overall Efficiency (AC to AC) - ECO Mode (Bypass feeding the load under normal conditions)	Upto 99%
6	Indications (LED)	For fault indications
7	Audible Alarms	I/P Fuse Open, PFC soft start Fail, DC BUS over shutdown, DC BUS under shutdown, INV volt abnormal, Output overload shutdown, Charger fault, INV IGBT overheat shutdown, PFC over heat shutdown, Battery disconnected.
8	Battery Backup / Battery Bank & Charger	
8.1	Battery Bank Voltage	480Vdc (default)
8.2	Battery Bank	LiB
8.3	Backup Required	60 min on 20 KVA full load
8.4	Model & Cell Type/Cell Configuration	Prismatic, 1 P Series Type Configuration Only
8.5	Chemistry of Cell composition	NMC only
8.6	Nominal Capacity in Ah	50-100Ah
8.7	Mandatory Safety Certifications/ compliances	UL1642/ IEC 62619, UN38.3
8.8	Safety Features in LiB Cabinet	MCCB to be present & Should have inbuilt protection for Overcurrent, short circuit, Overvoltage, under-voltage & over temperature
8.9	Communication Scheme with UPS	BMS Level/Dry contact integration & communication scheme
8.10	Nominal Operating Temperature for Lithium ION Batteries	0deg C to +45deg C
8.11	Restart / Testing Capability	
a	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown
b	Battery Self Test	Manual / Scheduled battery test to ensure healthiness of batteries.
8.12	Physical	
8.13	Operating Temperature	0 to 40 deg C full load
8.14	Operating Humidity	0 to 95% RH (Non-condensing)

8.15	Protection Class	IP – 20
8.16	Form Factor	Form Factor- Free Standing Floor Mounted UPS- Tower Type.
8.17	Connections - Rectifier Input / Output / Bypass Input / Battery	Breakers for input,output,bypass & Maintenance bypass
9	Interfaces:	Monitors and controls the status of the UPS via a network system
10	Restart / Testing Capability	
10.1	Cold Start	UPS should start up On AC Supply (Mains) without DC Supply (Batteries) On DC Supply (Batteries) without AC Supply (Mains)
10.2	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown
10.3	Self-Diagnosis	UPS should be capable to carry out self-test of Rectifier / Charger /Battery & Inverter module during start-up
11	Physical	
11.1	Operating Temperature	0°C ~ 40°C
11.2	Operating Humidity	5% ~ 95% (non-condensing)
11.3	Air Filters	UPS should have internal anticorrosion air filters for dust filtration
12	Certifications	
12.1	Product Safety Certifications (Mandatory)	CS: IEC61000-4-6: Level 3, ETDC/ERTL Certified IEC 61000-2-2 EN 62040-2 EN 61000-3-2
12.2	ROHS compliance	UPS should be ROHS & CE complied

24.3.27 Infrastructure Monitoring, Helpdesk SLA & Contract Management Software

Sl. No.	Minimum Specification
1	SI should also provision of required physical or virtual environment for 24X7 running of the offered software solution with minimum 6 months log reports storage capacity from Day 1 in the offered Servers. No separate server costing will be provided for the software. **"The proposed EMS solution MUST have at least 3 deployments in Indian Government/ Public Sector for monitoring & managing cumulative 5,000+ devices (including IT assets - Switch, server, etc.; Non-IT Assets -Cameras, UPS, KVM, PDU,IOT devices etc; ITMS/Surveillance system - Cameras, Sensors, etc. in each of such deployments. Customer names, solution details and OEM undertaking needs to be provided at the time of bidding."**
2	Offered Infrastructure management platform should be modular and scalable solution to perform centralized monitoring of complete infrastructure. Various key components/modules of the offered solution should be:
	A) Helpdesk System
	B) Network Fault & Performance Monitoring
	C) Server Fault & Performance Monitoring
	D) Storage Fault & Performance Monitoring
	E) Application & Database Fault & Performance Monitoring
	F) Log Collection & Analysis
	G) Unified Dashboard & Reporting
3	**A. Helpdesk System**

4	The solution should have predefined workflows for Incident, Request, Problem and Change Management. The Solution should have all the below mentioned modules to generate & manage tickets for both IT & Facility infrastructure. Should provide minimum 4 user licenses for management.
5	**A1. Incident Management**
6	Support the creation, modification and closure of Incident records for both IT & Facility Infrastructure. Tool should be capable to log the Incidents both automatically (on threshold breach) and manually (by the service personnel)
7	Incident should record the source of reporting of the incident (such as Alarm trigger, Email, person or group, Phone etc.)
8	Incident should be separate from Request, Problem and change request records and should be able to convert, Relate Incident to Problem, Request, Change etc.
9	Incident records can be classified according to Impact, Urgency, Priority.
10	Incident can be linked to another Incident, parent child relation between Incidents should be defined.
11	Support creation and access of a knowledge base for closed incidents and use of the knowledge base to resolve recurring incidents.
12	Tool should be capable to update on incident resolution progress.
13	Restrict the ability to open, modify and close Incident records to authorized staff only.
14	Facilitate flexible report generation based on selected filtering parameters such as location, incident type, priority, escalation, SLA breach and enable reports to be viewed, printed or exported to other file formats.
15	Solution should facilitate the production of management reports from historical Incident records and analysis of Incident to identify trends.
16	Ability to generate reports for the IT equipment's on which maximum number of incidents have been logged.
17	**A2. SLA Management**
18	The SLA & Contract Management solution should enable the BSEDC to capture all the System based SLAs defined in this Tender and then calculate quarterly (or for any duration) penalty automatically. Measuring service performance requires incorporation of a wide variety of data sources of the Surveillance project. The SLA solution should support the collection data from various sources in order to calculate Uptime / Performance / Security SLAs.
	•The solution must follow governance, compliance and content validations to improve standardization of service level contracts
	•Application should be pre-configured so as to allow the users to generate timely reports on the SLAs on various parameters.
	•The solution must support Service Level Agreements & Lifecycle Management including Version Control, Status Control, Effectively and audit Trail to ensure accountability for the project.
	•The solution must have the ability to define and calculate key performance indicators from an End to End Business Service delivery perspective related to Surveillance Project under discussion.
	•The solution should support requirements of the auditors requiring technical audit of the whole system
	•The solution most have an integrated dashboard, view of Contract Parties & current SLA delivery levels and view of Services & current SLA performance
	•The solution should support SLA Alerts escalation and approval process.
	•Solution should support effective root cause analysis, support capabilities for investigating the root causes of failed service levels and must make it possible to find the underlying events that cause the service level contract to fail.

	•Accept Data from a variety of formats; provide pre-configured connectors and adapters, Ability to define Adapters to data source in a visual manner without coding.
	•Support for Defining and Calculating service Credit and Penalty based on clauses in SLAs.
19	**A3. Asset Management**
20	The system shall provide the capability to define Assets of various types. Assets may be like:
	IT assets- Switch, server, etc.
	Non-IT Assets-Cameras, UPS, etc.
	Surveillance system –Cameras, Sensors etc.
	Software elements - DB Server, OS, Database Schemas, Licenses, Patches
21	The system should allow the user to manage the productivity of the asset by capturing the its lifecycle. System should showcase which asset is getting maximum number of incidents to provide visibility of the performance.
22	The system shall provide an easy method of searching and locating assets.
23	The system shall support the correlation between two or more asset group elements to avoid multiple alarms on same issue.
24	The system should allow the user to create Asset profile such as unique serial no, asset tag, asset owner, asset life, details of assets etc.
25	The system should allow the user to track assets at any time to know the status of an asset – location, using by whom, contract renewal for maintenance etc.
26	Ability to define down time for Assets to conduct Maintenance activity
27	The tool should have the capability to generate a report detailing all maintenance and other works carried out on any asset over any specified period of time.
28	**B. Network Fault & Performance Monitoring**
29	Solution should provide IT operations team a single, analytical driven tool to proactively manage heterogenous network equipment in the system by continuously monitoring their essential resources, detecting bottlenecks and potential problems, while proactively responding to network based incidents.
30	Solution must support highly scalable distributed architecture and provide efficient, centralized management of distributed systems. It should also provide proactive and automatic detection of events and alert before they can affect the whole network.
31	Solution architecture should allow adding new network devices easily and start monitoring services without disrupting the as is situation
32	Should be capable to discover manageable elements connected to the infrastructure and showcase logical and physical connectivity between them. It should showcase the equipment connectivity placed in the Racks.
33	Solution should depict the device status with different colors where each color will be an indicator of the current state. E.g. Red for Critical, Yellow for Warning etc. Real time details and historical details should also be provided in form of chart/report for the selected time period.
34	The solution should have inbuilt role-based access control to enable users to view information, dashboards and generate reports specific to their roles and responsibilities.
35	The tool should support event co-relation where the correlation logic can be configured by operator.
36	The tool should support for SNMPv1, v2, v3 & traps.
37	The OSS framework of the tool should be such that we can consolidate the management of various IT devices e.g. networks, security, storage, application, virtualized platforms & showcase the impact of one on another.
38	Trend analysis and instant drill down capability to know the peaking issues, which could hurt the operations of the infrastructure at any point of time.
39	All alarm/event messages shall be automatically time and date-stamped.

40	The tool should be able to filter out events for device marked under maintenance. It should have a GUI to define maintenance schedule.
41	The tool should suppress events for all the network elements that are down for routine maintenance. This would assist faster root cause determination, while it would also help to prevent flooding of non-relevant console messages. Should have the provision of appropriating parent-child relationship between all the networking devices in the network.
42	**The solution should be capable of tracking device history for networked end devices including the following details:**
43	When device was first connected to the network
44	If and when it was removed from the network
45	If and when it was moved from one physical location to another
46	How long it has been active or inactive
47	The solution should provide the capability of monitoring any Physical link port type including copper and fiber
48	The solution should have inbuilt dashboard which should show switch port utilization
49	The solution should be capable to detect and report about device connection and identify the associated location. This information can be used to establish whether this is an authorized connection in order to respond appropriately.
50	The solution should provide a comprehensive open-ended solution e.g. an SDK (software development Kit) and not just the capability to send SNMP traps to integrate the solution with any 3rd party software or in-house software.
51	Integration can be done via: SNMP traps, XML, database sharing and web services.
52	The tool should have a pre-integrated network fault and performance management module, so that it allows us to monitor all the networking equipment which constitutes the backbone network.
53	Tool should support monitoring of various standard hardware platforms/servers, database and operating systems
54	**Capacity Planning -**
55	**The solution shall be able to maintain a record of the rack capacity and utilization including:**
56	Total Rackspace and occupied Rackspace.
57	Total number of switch ports utilization.
58	**A. Server Fault & Performance Monitoring**
59	Tool must provide information about availability and performance for target server nodes.
60	Power Consumption of standalone and blade infrastructure & Overall hardware monitoring including temperature.
61	Solution should be able to monitor the following server parameters: Disk Usage, CPU Usage, Memory, Interface status, Log file monitoring, Process status, CPU Utilization by a process, Fan Status, Power Status.
62	**B. Storage Fault & Performance Monitoring**
63	Overall hardware monitoring including temperature
64	Support for various storages type like NAS, SAN, etc. and should be able to monitor & showcase following parameters:
	Fault in hardware components, Cache Utilization, Host Port Utilization, Disk utilization, List of Active sessions, Overall database health status in single dashboard
65	Solution should depict the device status with different colors, where each colour will be an indicator of the current state. E.g. Red- Critical, Yellow- Warning etc.
66	Should show both real time details and historical details in form of charts with option to choose the time periods
67	Should supports creation of full set of event classification, severity classification, setting upper and lower thresholds, Asset modification & changes, etc.

68	Should have support for Total storage statistics, LUN & Volume statistics, Ram disk statistics, & Storage Hardware Health statistics.
69	Should show capacity, allocation, usage and forecasting at all level of storage environment
70	Should show statistics like Total IO/sec, service time, IO response time, queue length etc.
71	**C. Application & Database Fault & Performance Monitoring**
72	Tool should have the capability to monitor industry standard applications and databases using various performance counters
73	Tool should allow monitoring HTTP service, HTTPS service, FTP server statistics, POP/SMTP services, ICMP services.
74	Tool should be capable of monitoring various Database parameters such as database tables size / log size / table spaces.
75	Tool should provide option to monitor target URLs for availability & Response Time
76	Tool should give Application statistics on Session, Connections, Threads, Memory cache & size, Function invokes, etc.
77	**D. Log Collection & Analysis**
78	The proposed solution must provide a common classification of event irrespective of the log format.
79	Proposed solution should support agent based and agent less log collections.
80	Syslog events can be viewed in normal Web-based Events Console.
81	The proposed solution must provide the ability to store/ retain both normalized and the original raw format of the event log as for forensic purposes.
82	The log data generated should be stored in a centralized server. The period up to which the data must be available should be customizable.
83	The proposed solution must support log collection for hosted applications such as database, web server etc. using agents.
84	The solution should be able to collect raw logs in Realtime to a Central log database from various IP devices such as Networking devices, Security devices, OS.
85	Proposed solution should have easy query options and analyze log data from multiple sources for easy troubleshooting.
86	Proposed solution should be able to generate automatic alarm to log event correlation for predictive issue resolution.
87	The proposed solution must collect, index the log messages and support full-text searching.
88	**E. Unified Dashboard & Reporting**
89	The dashboard and reporting engine should provide, centralized view of all the IT elements like server, network, storage, application, database, virtual infrastructure etc.
90	Proposed solution should provide customizable reporting interface to create custom reports for collected data.
91	Solution should support automatic, scheduled or on-demand report generation and must support exporting of reports in variety of formats like PDF, CSV, ASCII or Print. It must support real-time reports as well as historical analysis reports (like Trend, Capacity Planning, Forecasting, Event Flow reports etc.)
92	Web-based interactive reporting for business users, Rich graphical report designer for power users, Parameterized reports with powerful interactive Charting & Graphing.
93	Solution should provide us a comprehensive centralized dashboard for health monitoring of IT Infrastructure components like: Camera, Switches, Servers, Storage, Logs, etc.)
94	**Reporting**
95	•Ability to generate reports on penalty and credit due, to check on non-compliance of SLAs for the surveillance project.
	•Monetary penalties to be levied for non-compliance of SLA, thus the system must provide Service Level Performance Report over time, contract, service and more.

	•The solution should provide historical and concurrent service level reports for the surveillance project in order to ensure accountability of the service provider's performance.
	•The solution must support Templates for report generation, Report Filtering and Consolidation and Context sensitive Drill-down on specific report data to drive standardization and governance of the surveillance project.
	•The solution must support security for drill-down capabilities in dashboard reports ensuring visibility for only relevant personnel of the surveillance project.
	I. Resource utilization exceeding or below customer-defined limits.
	ii. Resource utilization exceeding or below predefined threshold limits.
	An indicative List of SLAs that need to be measured centrally by SLA contract management system are given in the Tender Document. These SLAs must be represented using appropriate customizable reports to ensure overall service delivery.

24.3.28 Internet Firewall & Provisioning of Internet

Sl. No.	Parameter	Minimum Specification
1	Type	Integrated Security appliance, which is capable of supporting Firewall, Gateway Anti-Virus, Intrusion Prevention, Application Control, Content Filtering Service, Botnet Filtering and Geo-IP protection etc. Firewall Hardware box and software should be from same single OEM. No platform based customized solution acceptable.
2	Form Factor	Should be rack mountable appliance-based integrated solution
3	Architecture	The proposed appliance should have multi core CPU
4	Memory	Minimum 4 GB
5	Storage	32 GB Flash or better
6	Interface	Appliance should have minimum 8 no. of 1GbE Ethernet interface, 1 USB interface, 1 Console interface.
7	High Availability	Active-Active and Active Passive from Day 1
8	SDWAN	Should support SDWAN from Day 1. Solution should support multiple WAN connectivity mediums such as MPLS, ILL, Broadband, 3G - 4G on USB port port using external modem/extender, Point to Point lease line.
9	Performance Capacity	The firewall should have application throughput of min 500 Mbps with application visibility, control and logging enabled.
		The Firewall should have Ipsec VPN throughput 500 Mbps or better.
		The firewall should have the capability to support minimum 4000 new connections per second from day 1.
		Total connection value-min 60000.
		Minimum VPN Tunnel support from Day 1-100 no.
10	Prevention Features	Should be able to perform Anti-virus scans for SMB traffic. Should incorporate Firewall, IPS, IDS, Application control, Anti Malware, Anti Spyware.
		Should be able to generate graphical reports on top attacks, source for attack etc.
		Should have the option to schedule reports for automatic generation & email it to admin.
		Solution should have Bi-directional raw TCP inspection and the appliance should be capable of scanning raw TCP streams on any port bi-directionally to prevent attacks.

		Solution must be capable of passively gathering information about network hosts and their activities such as operating system, services, open ports, client applications and vulnerabilities to assist with multiple activities such as intrusion event data correlation, elimination of false positives and policy compliance.
		URL database should be updates regularly by the OEM automatically.
		Should be able to block different categories / sites based on users/groups and facility to block the URL's based on categories.
		Should have facility to configurable policy options to block web sites based on banned words.
		Appliance should be able to re rate website into custom URL category & Should have configurable policy options to define the URL exempt list.
		The proposed firewall should be able to scan All file size for Gateway anti virus, there should not be any restriction on file size scanning.
		Should have advanced QoS that guarantees critical communications with 802.1p, DSCP tagging, and remapping of VoIP traffic on the network. Scalable bidirectional path health measurements, QoS, traffic shaping.
		The proposed firewall shall be able to identifies port-based rules/policies so admin / security team can convert them to application-based whitelist rules or add applications to existing rules without compromising application availability.
		The proposed firewall shall be able restrict application traffic to its default ports to prevent evasive applications from running on non-standard ports.
		The Firewall should always be accessible irrespective of the load of traffic on the firewall. There should not be an instance when firewall becomes inaccessible during heavy traffic situations. There should be dedicated resources allocated within the firewall for firewall management, logging, reporting etc.
11	Monitoring, Management and Reporting	Should support on device management, reporting, logging with complete feature parity on firewall administration from day 1
		Should support the on box report generation on a manual or schedule (Daily, Weekly, Monthly, etc.) basis from day 1
		Should allow the report to be exported into other format such as PDF, HTML, CSV, XML etc.
		Should have built in report templates base on Applications, Users, Threats, Traffic and URLs
12	PSU	Redundant Internal/External PSU
13	Functional Requirement and ISP provisioning	The SI need to extend BSWAN connectivity from nearest POP to the SDWAN enabled Redundant Firewall devices for mobile streaming of live/recorded alarm video feed triggered by VA outside the court premises.
		NGFW box in HA mode each with min 1 USB interface for connecting 4G Internet Dongle/Modem, 5 years Advanced Threat Protection license and 5 Years onsite support. To be supplied with all connecting accessories for achieving functional requirement.

24.3.29 Mobile Streaming Server

Sl. No.	Minimum Specification
1	**1 no. of Mobile Video Streaming Server(Max 2U Rack mount) with minimum specification as below-** · Processor – 2 x 8 Core or Single 16 Core Intel/AMD Server class processor with 3 Ghz base frequency. · Memory – Minimum 32 GB DDR4 · OS Hard disks – 2 X 600 GB SAS HDD at 10000rpms · OS- Windows Server 2019 Std Edition 64 bit or above · Network Card – 4 x 1Gbit/s network cards · Graphic card – 2x 1080P NVIDIA/AMD Professional series 4GB GDDR5 Graphics Card. Should be compatible with OS and VMS from Day 1. Should have redundant hot swappable PSU

24.4 Civil Electrical Passive and Other Items

24.4.1 Civil ,Wood Work & Electrical Work

Sl. No.	Minimum Specification
1	SITC of all Civil, Electrical and furniture items as required for setup of the CCTV Monitoring and Control Room , Server NOC Room, UPS as per techno functional specification of items mentioned in Annexure I and Section Scope of work 21.5 and 21.6.
2	All electrical items and furniture should be from reputed ISI certified OEMs
3	At CCTV Monitoring & Control Room- i. 12 no. of ergonomic chairs each with 5 wheels, hand and high back support and leather finishing to be supplied. ii. SITC of Workstation Console Desk made of MDF laminated board for 4 number of operators in front of the videowall to be supplied. Each console shall have retractable keyboard drawer and 2 no. of monitor mounting adjustable stand. The console desk should have internal LAN and electrical cable channel with MCBs, switches and Fans. The workstation desk should have 3 no. of tabletop 5 Amp plug points with switch for each operator and 3 no. of 5 Amp plug points with switch for connecting the workstation below the desk. The workstation desk should have channel for passing video cables from monitors to workstation placed below the desk. iii. SITC of 1 Workstation Console Desk made of laminated MDF board for Project manager workstation with 65" LED and 2 monitor installation in adjustable stand. iv. SITC of False ceiling work in the CCTV Monitoring room and Server/ NOC room. v. SITC of ceiling mounted LED lights at CCTV Monitoring room and Server/ NOC room. vi. SITC of minimum 8 no. of Multisensor Smoke Alarm with Fully Addressable Fire Alarm Control panel at CCTV Monitoring room and Server/ NOC room. vii. SITC of Ultrasonic Rodent Repellent System in the CCTV Monitoring room and Server/ NOC room. viii. SITC of 3 no. of LED baton and 3 no. of Wall mounted Fan at CCTV Monitoring room along with plug point for fans and switch board for the LED and all other electrical equipment. ix. SITC of 2 no. of heavy Fire Rated Steel Doors with frame, Hydraulic Door closer, Panic Bar Exit device, EM Locks connected with the Access control system for CCTV Monitoring room and Server/ NOC room. x. Supply and commissioning of partition wall between CCTV Monitoring room and Server/ NOC room. xi. SITC of 2 no. of 2 KG Portable Fire Extinguisher xii. Painting and restoration of the CCTV Monitoring room and Server/ NOC room. xiii. SITC of CCTV Camera, Access Control system and ACs along with all power and network

	cabling in the CCTV Monitoring room and Server/ NOC room. xiv. Any other Civil, Mechanical, Flooring, Electrical and Furniture work in the CCTV Monitoring room and Server/ NOC room.

24.4.2 Armored Double Cat 6 UTP Cable

Sl. No.	Minimum Specification
1	4 Pair Cable with integral cross -member pair separator for uniform characteristic impedance.
2	Category 6 Unshielded Twisted 4 Pair 100 Ω cable shall be compliant with ANSI/TIA/EIA-568-C.2-1 Additional ISO/IEC 11801 2ndEd. Transmission Performance Specification for 4 Pair 100Ω Category 6 Cabling
3	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, UTP cable jacket.
4	Conductor: Solid Copper
5	Conductor Diameter: 23 AWG
6	Insulator High Density Polyethylene
7	Inner Jacket: LSZH/PE
8	Outer Jacket: High Density PE/LSZH, Anti rodent. Both Inner and outer PE not acceptable. Should be combination of LSZH and PE.
9	Application: Outdoor Armored – ECCS Tape as armour
10	Operation Temperature: Up to +70°C
11	**Mechanical Test**
12	Should have Pulling force of 11.5 Kg.
13	Bend Radius: 20 x Cable Diameter
14	**Electrical Test**
15	Conductor Resistance: <9.38Ω /100m
16	Resistance Unbalance 5% Max
17	Mutual Capacitance: < 5.6nF/100m
18	Capacitance Unbalance: 330pF/100m.

24.4.3 Cat 6A UTP For Indoor

Sl. No.	Minimum Specification
1	Cable for high-speed VDI transmission networks. 802.3 bt PoE++ applications compatible according to installation standards ISO/IEC 14763-2 (final draft) and EN 50174-2 : 2018
2	Cable shall be constructed with pair separator as well as individual conductor separator.
3	The nominal Outside diameter should not be more than 8mm
4	Operating temperature of -10 to 60 0C
5	CAT6A UTP Cable must comply to the latest requirements of 4-Pair PoE as per IEEE 802.3bt (Type 4)
6	The cable shall be available in Low-Smoke, Zero Halogen (LSZH) and must comply with the following Fire Safety standards:
7	1) Cable shall be ISO/IEC 60332-3-1 or better for bundled cable for CAT6A requirements.
8	2) ISO/IEC 60754-2: Acidity
9	3) ISO/IEC 61034-2: Smoke Density
10	NEXT - Minimum 3 dB above the standards;
11	Should support a minimum of 4 connector Channel with a minimum 3 dB guaranteed NEXT
12	Electrical Properties:
14	Max DC Resistance: ≤8 Ohms/100m

15	Max. Operating voltage: 80 V
16	Frequency: Tested 600 Mhz or above
17	**Certifications and Test Reports:**
18	Category 6A cable should be certified by Intertek lab under 4 connector channel configurations to the requirement of ANSI/TIA 568-C.2 for long channel (100m) as well as short links (<15m). Test Certificates to be provided with bid.
19	Cable shall be IEC 60332-3-22 or better for bundled cable for CAT6A requirements.

24.4.4 Patch Cord, UTP 4P, Cat.6A, length 3/5/10 m

Sl. No.	Minimum Specification
2	Plugs shall be designed with an anti-snag latch to facilitate easy removal during move, add and change processes.
3	The LSZH version must comply with the following Fire Safety standards:
4	ISO/IEC 60332-3-1
5	ISO/IEC 60754-2: Acidity
6	ISO/IEC 61034-2: Smoke Density
7	The cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.
8	The patch cords will have insertion life of 750 cycles minimum.
9	Shall be available in multiple colors.
10	Min Plug retention force: 133N
11	Shall be ETL and UL Listed
12	Patch Cords shall have maximum dc Resistance:0.30 Ohm
13	Safety voltage rating: 300 V
14	Should be ETL verified; 4 Channel ETL certificate should have part code mentioned of same category, different length is acceptable

24.4.5 CAT6A UTP Patch/Jack Panel

Sl. No.	Minimum Specification
1.	CAT6A UTP loaded Patch Panel compliant to ANSI TIA 568-C.2, ISO/IEC 11801 Class EA, 1U with rear cable management
2.	Panel ports with RJ45 jack in the front and Insulation Displacement Connector (IDC) at the rear of the module.
3.	Shall be Intertek tested and certified under worst-case 100 meter (4-connector channel), to deliver the minimum guaranteed channel performance as per ANSI/TIA 568-C.2 CAT6A.
4.	The patch panel type shall be compliant to IEC 60603-7-4/Any other Third-Party certificate to be provided.
5.	The panel shall support universal T568 A/B wiring labeling and 110 connector terminations on rear of panel allowing for quick and easy installation of 22 to 24 AWG cable
6.	The panel shall be equipped with a removable rear mounted cable bundle managers and labels
7.	Insertion Life: Min 750 insertions
8.	RJ45 connectors should be equipped with a locking.
.	Supplied with colored labels as optional
12.	Universal mounting of all cabinets or enclosures
14.	Equipped with rear cable guide to hold cable during maintenance
15.	The panel shall be UL Listed or ETL verified
16.	Operating Temperature: -10°C to 60°C
17.	19" panel - 1 U

18.	The performance warranty for overall installation shall be for 25 years by manufacturer.

24.4.6 Cat 6A UTP RJ 45 Keystone Jack

Sl. No.	Minimum Specification
1	RJ45 Jack of Category 6A, for the establishing of transmission channels of class E with up to 4 plugged connections, complies with Category 6A requirements of the standards ISO/IEC 11801:2nd edition, EN 50173-1, DIN EN 50173-1: 2002 as well as ANSI/TIA/EIA 568-B.2-1, de-embedded tested in acc. with IEC 60603-7 (603-7), interoperable and backwards compatible with Cat.5e, Cat.5, Cat6.
2	Keystone Jack implemented in Patch Panel should have min Current Rating 1.5A@ 20 Deg C, Insulation Resistance- 500 Mohm or better.
3	Suitable for 10GBase-T applications in acc. with IEEE 802.3an up to 600 MHz.
4	Compatible with RJ standard plugs (RJ11, RJ12, RJ45), PCB- and tool based connection of installation cables AWG 24 – 22 (0.5 mm – 0.65 mm) and flexible cables AWG 26/7 – AWG 22/7.
5	IDC termination should feature nil crossover in acc. with EIA/TIA 568-A/B, gold-plated bronze contacts for >750 mating cycles, >200 insertion cycle, Plug retention strength: 100N or better.
6	Material: RoHS complied
7	Housing material: Polycarbonate
8	Should be Delta certified and ETL 4 connector verified. The Bidder should submit the certificate. Equivalent 3rd Party certificate acceptable.

24.4.7 Cat6 Field Termination Plug

Sl. No.	Minimum Specification
1	Standardization: Compliant with Cat.6/Cat6A
2	Cable shield: U/UTP
3	Number of conductors : 8
4	Termination: IDC type Tool less field termination plug or Ceiling connector RJ45 plug with pre terminated LSZH UTP Pigtail
5	Material: PC UL 94V-0/Copper alloy High-impact, flame retardant, thermoplastic
6	Contact material: Metal
7	Operating Temperature: Up to +60 degree C
8	Mating cycle: 750 cycle min

24.4.8 6/12 Core Outdoor Armored ECCS Tape Fiber Cable

Sl. No.	Minimum Specification
1	Single mode, Armored (Corrugated Steel tape Armor), loose-tube, CST armor, Gel Filled 9/ 125, Telcordia‟s GR-20 and ITU-T 652.D Compliance @1310nm < = 0.35 dB/Km. @1550nm < = 0.20 dB/Km.
2	The fiber should be optimized for operation at 1310 nm and at 1550 nm.
3	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition, type OS1/OS2, ITU-T REC G 652D spec IEC 60794-1-2 F5
4	No of Cores : 6/12 each tube with 2 or more core
5	Fiber/Tube Identification : Multi Tube
6	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
7	Armoring : ECCS Tape 0.15 mm thickness

Sl. No.	Minimum Specification
8	Outer Sheath : HFFR/LSZH 1.8 mm
9	Central Strength Member: FRP (2 ± 0.1 mm)
10	Water Blocking : Gel filled loose tube
11	Cable Diameter (D) : 15.0 ± 1.0 mm
12	Mass (Nominal) : 200 ± 25 kg
13	Min. Bending Radius (during Installation) : 20 D; D-Outer Diameter
14	Max. Tensile Strength-Max : 4000N
15	Max. Crush Resistance-: 4000N
16	Operating Temperature range : 0°C to +70°C

24.4.9 48 Core Outdoor Armored Backbone Optical Fiber Cable

Sl. No.	Minimum Specification
1	48 fiber Single Mode, Armored, Multi-tube, Gel filled cable complying to ISO/IEC 11801, EN50173, ANSI/TIA 568-C.3, Telcordia GR-20; suitable for use in direct burial, outdoor ducts and backbone cabling
2	Single Mode, 9/125-micron primary coated buffers, OS2 (IEC 60793-2 and ITU T G652.d)
3	Electrolytically Chrome-Coated Steel (ECCS) Armor of min. 0.22 mm thickness
4	Telcordia GR 20, IEC 60794-1
5	8 tubes with 6 fibers each. Both fiber and tube must be color coded as per TIA 598-C.
6	Outer jacket shall be of HFFR/LSZH Jacket
7	Water blocking Glass yarn strength members at the periphery of the multiple loose tube arrangement
8	Central FRP rod strength member around which the loose tubes should be arranged symmetrically
9	The loose tubes should be wrapped first by glass yarns and then by polyester tape
10	Tensile Strength & Crush Resistance: 4000 N or better
11	Cable Diameter: 15.5 + - 0.5 mm
12	Bending Radious:20D
13	Cable Weight -220 – 240 Kg/Km
14	Up to +70 Degree C
15	Shall be ROHS 2011/EU compliant

24.4.10 OFC Joint Closure

Sl. No.	Minimum Specification
1	48 Port Joint Closure Cylinder Min. 3 –way air/water sealable (IP68) with splice tray. To be suitable for burial in marshy/waterlogged areas (w/o ingress of water).

24.4.11 LC Type OS2 Fiber Optic Simplex Pigtail

Sl. No.	Minimum Specification
1	Pigtail with semi-tight buffer PA/PBT,Type : 9/125 micron fiber performance
2	Material PEI / UL 94 V-0, strain relief and white plastic dust cover Mechanical specifications: Mating cycles: delta IL < 0.2 dB after 500 mating cycles Pull-out force fiber pigtail: 5 N Jacket Material: LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
3	Operating Temperature: -40°C to +75°C
4	Connector Insertion Loss: 0.30dB(Max)
5	Attenuation: 1310/1550 : 0.36/0.22 dB/KM

24.4.12 Patch Cord, LC, Duplex, SM, G657A2/ G657A1 PC, LSZH

Sl. No.	Minimum Specification
1	Cable : LC-LC 9/125µm OS2 Single mode Duplex Patch Cord Length : 3mtrs
2	Connectors : The optical fiber patch leads shall comprise of Single mode 9/125µm fiber with 2XLC type fiber connectors terminated at each end of fiber patch cord.
3	Insertion loss should be better than 0.35 dB
4	Jacket Material : LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
5	Attenuation: 1310/1550 : 0.36/0.22 dB/KM
6	Connector Loss : 0.30dB(max)
7	Operating Temperature : -40°C to +75°C

24.4.13 Fiber Optic LIU Rack Mount LIU (6/12/24 Ports)

Sl. No.	Minimum Specification
1	Fiber optic patch panel: Fiber optic patch panel FMS Termination Drawer should have sufficient slots to accommodate 3 of 12/16 Port LC Adaptor Plates.
2	Should have Slide type drawer structure
3	Height: 1 U, (12 & 24 Ports)
4	Material: Cold Rolled Steel in surface coated by electrostatic epoxy powder
5	Slots: FMS should have sufficient slots to accommodate adaptor plates
6	Empty Slots of FMS should be covered with blank plates.
7	Splice Tray: Splice Tray of ABS, comply with UL 94V2 material should be supplied with LIU.
8	**12/16 Port LC/SC Type Adaptor Plates (Single mode)**
9	The adaptor plate should be pre-loaded with LC/SC Type Single mode Duplex Adaptors.
10	Port Density :12/16 LC/SC Single mode Ports
11	All LC adapters should be duplex type with shutter/dust caps for protection. Adapters should be snap mount for easy insertion and removal.
12	Insertion Loss: <0.2 to <0.1 dB
13	Compliance: RoHS Compliant
14	Cable glands shall be provided for secured anchoring of incoming cables. Rubber grommets shall be
	provided at the cable entry point for tight sealing. The splice tray shall be made of ABS materials. 12/6 Port (All OFC cores to be terminated)

24.4.14 Fiber Optic DIN Rail Mount LIU (12 Ports)

Sl. No.	Minimum Specification
1	High quality cold rolled steel plate is refined, and surface electrostatic powder spraying is applied.
2	Guide rail buckle material is nylon
3	Allow maximum 4 cables entry
4	Plug/Unplug Durability: 1000 times
5	Installation temperature: Up to + 60 C

6	Suitable for DIN-RAIL/Pole mount
7	Feature of Earthing option available
8	Comply with IEC, ITU-T, IEC 61754-4, 61754-20; RoHS Compliant
9	Can be used as 12 port patch panel using LC/SC Duplex couplers with covers
10	Insertion Loss: less < 3db (Multimode). < .2db (Single mode)
11	Adapter Housing: Precision molded polymer housing, Thermoplastic Sleeve: Zirconia Ceramic
12	Cable glands shall be provided for secured anchoring of incoming cables. Rubber grommets shall be provided at the cable entry point for tight sealing. The splice tray shall be made of ABS materials. 12/6 Port (All OFC cores to be terminated)

24.4.15 HDPE Conduit

Sl. No.	Minimum Specification
1	Should be Heat/Flame resistant durable and chemical resistant mechanically protective Conduit Pipe with required accessories (couplers etc.) for underground/wall mount cable laying. The conduit shall be laid along the length of cable & shall be glands at both ends. Supply of necessary Glands, couplers, etc. shall be part of bidder's scope.
2	Diameter:50 mm outer diameter (OD)
3	Strength: 10 Kg/cm2 or higher
4	Wall Thickness:4.0±0.3
5	Weight - 150gm, Strength -10Kg/cm2 or higher
6	Must be TSEC Certified and certificate need to be submitted

24.4.16GI Pipe

Sl. No.	Minimum Specification
1	2" C-Class ISI marked GI Pipe with required accessories for road/gate/other crossings.

24.4.17 Electronic Route Marker & Locator

Sl. No.	Minimum Specification
1	Electronic Marker System (EMS) should be readable to a maximum buried depth of four feet.
2	These ID markers should come pre-programmed with a unique identification number. Should have memory size 256 bits.
3	Should be High-density, watertight polyethylene made supporting up to 45 Deg temperature.
4	Should be compatible with the Locator
5	The locator should be handheld and should Reads, writes and locates ID markers.
6	Estimates exact location of underground markers
7	Should have Large, backlit, high-resolution graphic display

24.4.18 Outdoor Cabling Standard

Sl. No.	Minimum Specification
1	This will comprise laying outdoor OFC, Armored CAT6 and Power cables from UPS(all labor for digging, refilling & resurfacing) of all cables in a structured format (using appropriate quality piping) from control room (primary and secondary) to various surveillance and office locations (including laying of conduit, dressing, OFC, splicing, I/Os, glanding, Crimping, Testing, termination & installation cost etc.) Digging shall be by using JCB, hand tools, pneumatic / electric jackhammers / as required without damage to any others in the area/vicinity. OFC Cables shall be laid at a depth of 1-1.2 mtr while LV cables shall be laid at a depth of 700 to 750 mm below FFL. Refilling shall involve using sand layering, brick layering & then soil (followed by repair of any damaged roads/pavement/others) for each of the cable types. Surface cementing wherever required to be also done by the SI. Hand-holes shall be provisioned with appropriate covers at every 100 meters and wherever the cabling path changes underground. Above ground laying shall be in cable ducts/trays. Wherever existing cable ducts/trays are being used, cable clamping & duct covers re-fixing shall be in bidder's scope. Laying of cable in other overhead locations shall involve cable trays with necessary fabrication, fixtures & installation, incl fixing of cable trays (with supports finished & painted). All cable laying shall include civil/mechanical/electrical works for cable laying (as required), laying, dressing, power-provisioning, drilling, clamping, supply & laying in casing capping/conduit/GI pipe/cable duct/tray complete with fittings & supports, refilling of trenches as per procedure, glanding, ferruling, crimping, testing & recording of test results, powering-up & final commissioning.

24.4.19Network Cable Laying Indoor

Sl. No.	Minimum Specification
1	This will comprise laying of all CAT 6A, Wiegand, Power & Control cable in a structured format (including fitting of casing/capping, I/Os, glanding, Crimping, Testing, Termination & Installation cost etc.) within the security cabin and the control Room and other buildings. Laying shall include laying, casing capping, necessary fixtures, dressing, cable tagging, ferruling & subsequent repairs for false ceiling/false flooring/walls/pavements related to the job. Supports shall be provided every 1 to 1.3 Mtr interval. All cable laying shall include civil/mechanical/electrical works for cable laying (as required), laying, dressing, power-provisioning, drilling, clamping, supply & laying in casing capping/conduit/GI pipe/cable duct/tray complete with fittings & supports, repairs as per procedure, glanding, ferruling, crimping, testing & recording of test results, powering-up & final commissioning.

24.4.20 Indoor Cabling Standard

Sl. No.	Minimum Specification
1.	For Horizontal and backbone cabling for the entire network structured cabling standard ANSI/TIA-568-C.0 and ANSI/TIA-568-C.1 to be followed. The following components should be used for cabling as per site requirement without any exception. Bidder to upload datasheet of each of the following components as part of their technical bid.
2.	Wire Mesh Cable Tray-At CCTV Monitoring & Control Room and building indoor location
3.	Cable Channel Tray/Raceway-At CCTV Monitoring & Control Room and building indoor location
4.	Overhead Cable Pathway Rack-As per requirement
5	Fiber Raceway with Flexible Tubing Open-For all Indoor OFC cabling
6	Vertical Cable Manager-At CCTV Monitoring & Control Room
7	Horizontal Cable Manager-Must for all network racks
8	Wall Mount Cabinets with perforated door-As per requirement for all cable termination locations inside buildings

24.4.21 42U Server & Network Server Rack

Sl. No.	Minimum Specification
1	42 U Floor mounted cabinets (Network Rack- H 1747 mm x W 800 mm x D 800 mm/ Server Rack- with reversible front door made of safety glass of thickness 4 mm supplied with cable manager.
2	Removable side panels fitted with key lock and solid rear door fitted with Cam Lock/ 3-point lock.
3	Integrated base with ventilated plate at the front.
4	Solid cable entry plate at the top & bottom
5	Epoxy polyester Powder coated 60-80-micron thickness
6	Horizontal Metal Cable manager, Hardware packet, Monitor Shelf, Cantilever Shelf, Blank Panels, Keyboard tray, sliding drawer, vertical cable guide, baying kit, cable management rings.
7	4 Fan Mount provision on top cover. Each Rack to be supplied with 4 Fans
8	IP 20 as per IEC 60529 with solid sealing.
9	IK 08 as per NF EN 62262 and IEC 62262

24.4.22IP KVM Switch

Sl. No.	Minimum Specification
1	KVM Switch should have 16 Ports
2.	KVM Switch should have two Network Ports supporting 10/100/1000mbps speeds either for accessing from different networks or for redundancy
3	KVM Switch should support 1 Local and 1 Remote Users i.e. 2 concurrent sessions
4	Dual Power Sources capable of handling 110-240V, for power redundancy
5	Local and Remote Console should be same
6	Bios Level Access and Control of connected devices both from Local and Remote Console
7	KVM Switch should support Virtual Media for software installations, patch updates, troubleshooting, etc. from remote console
8	KVM Switch should support absolute mouse synchronization when connected with appropriate modules
9	KVM Switch should support VGA, DVI, HDMI, DP and USB-C interfaces
10	Remote connection to KVM Switch should be supported through Multi-Browser access
11	KVM Switch should support external authentication protocols viz. LDAP, RADIUS, Active Directory
12	KVM Switch should support both IPV4 and IPV6 network operating environment
13	KVM Switch should support High Definition resolution up to 1920X1080 and 1920X1200 video sessions at 30 FPS
14	KVM Switch should supports FIPS 140-2 encryption
15	KVM Switch should be supplied with appropriate Virtual Media CIMs with 2 USBs - One USB dedicated for Keyboard and Mouse, and another USB for BIOS level Virtual Media
16	KVM Switch should support Java-free remote access of servers, workstations and serial devices
17	KVM Switch should have Digital Local display port
18	KVM Switch should support out-of-band access
19	KVM Switch should support Dual Video Access from remote console
20	KVM Switch should support integrating with Client SDK and API for automation
21	KVM Switch should support integration with Centralized Management Software for single window access of multiple KVM Ports
22	KVM Switch should support integration with Intelligent Outlet switched PDU for Power Control i.e. On/off/recycle of devices connected to KVM, from KVM console itself
23	Console should be 1U Rack mountable
24	Console should have 17" LED-backlit LCD displays, Keyboard and Touchpad
25	Console should be capable of handling 110-240V
26	Console should support DDC, DDC2, DDC2B.

Sl. No.	Minimum Specification
27	Console should have A grade LCD without dead pixel, 300 nit brightness, 650:1 contrast ratio and 16:9 aspect ratio
28	Should support Video Resolution up to 1920 x 1080 resolution @ 60Hz
29	Console should be operable with storage temperatures of -5 to 60 degrees and operating temperatures of 0-50 degrees Centigrade
30	Console should have front USB Port for connecting external USB device viz. Smart card reader
31	Console should have both DVI-D and VGA Ports for local display connectivity
32	Console should support 16.7 million colors
33	Multi-language support Keyboard
34	Console should support integration with third party KVMs
35	Console should have auto Power On / Off switch for power saving while opening and closing the Console
36	Console should comply with FCC, CE, VCCI, UL, and ROHS Certifications

24.4.23 IP PDU For 42U Server Network Rack

Sl. No.	Minimum Specification
1	PDU should have UL based bus bar architecture for minimizing the down time
2	PDU chassis should be of aluminum without perforated holes to sustain high temperature.
3	iPDU should be of 1 phase load as per site requirement
4	PDU should have MTBF minimum of 1 million hours
5	Intelligent PDU should have suitable IEC-60309 Industrial input plug
6	Intelligent PDU should have 36 Outlets: IEC C13 X 30 and IEC C19 X 6 sockets for Server Rack/Intelligent PDU should have 24 Outlets: for Network Rack: IEC C13 X 20 and IEC C19 X 4 sockets.
7	PDU should be equipped with secure Lock outlets
8	PDU should have provision to secure cable connections avoiding lose connection and accidental removals.
9	PDU should have flush mount type hydro-mechanical (Class B) Circuit Breaker Trip Alarming feature per 16A
10	PDU should have audible alarming beeper during Circuit Breaker Trip
11	PDU should support configuration of user defined thresholds at Outlet, CB and Inlet / Input levels and alerts at multi levels with two on higher and two on lower side.
12	iPDU should support residual current monitoring to report current leakage on phase to earth and thus protecting both Humans and Sensitive Components of IT Appliances
13	PDU should provide for power control of each individual sockets i.e. on/off/recycle/safe shutdown the power
14	iPDU should support graceful shutdown of the target system without any dependency on third party software.
15	PDU should support for Outlet Power on sequencing and setting time delay between switching on outlets
16	PDU should use bi-state latching relays tested for 20000 power cycles
17	PDU controller should have minimum configuration of 128MB DDR2 RAM, ARM Cortex A5 536 MHz, 16MB SPI Flash
18	iPDU controller should have 2 nos x 1G network ports for network redundancy or to access from different networks, thereby differentiate external and internal networks
19	PDU should support for field replaceable controller to avoid downtime in case of maintenance
20	PDU should have LCD Display for at the rack display of the power information from Line, CB and Individual Sockets

Sl. No.	Minimum Specification
21	PDU should support power sharing between controllers of 2 PDUs to support continuous communication, data sharing and reporting.
22	PDU should provide the capability of reporting error through email or SMS gateway
23	iPDU should support multiple sensors like Temperature & Humidity, Water Leakage Detection, Proximity, Differential Air Pressure, Smoke detection, Contact closure, Airflow, Web Camera and Asset Management System. IPDU should be supplied with 3 Temperature and One Humidity Sensor for measuring environmental parameters inside the rack
24	PDU should have DUAL USB PORTS, supporting auto mass & independent configuration, cascading between PDUs
25	Full color chassis - PDU should be available in different colored enclosures to choose from, to ensure deployment classification
26	Intelligent PDU should measure and monitor RMS current per line, RMS voltage, Apparent and Active power (kVA, kW), Power Factor (PF) and Energy consumption (kWh) in real time at the inlet, circuit breaker and outlet level
27	Measuring and monitoring of Data and readings by the PDUs should be of billing grade accuracy i.e. +/- 1%
28	PDU should support integration with LDAP/LDAPs and AD for secure authentication apart from local user and user groups
29	PDU should support setting Password Policies like password aging, password history, alphanumeric and special character combination with minimum and maximum characters. Also should allow user block on multiple failed attempts.
30	Customized and configurable user profiles to access, view and deny
31	PDU should support variety of access protocols including HTTP, HTTPS, NTP, SMTP, SSH, Telnet, SSL, SNMP v1, v2 and v3, SNMP INFORMS and JSON-RPC
32	PDU should support both IPv4 and IPv6 network protocols
33	PDU should support firmware upgrade using TFTP, JSON-RPC.
34	PDU should support access control list based on IP and role in both IPv4 and IPv6 networks
35	PDU should have open architecture to integrate with third party software and MIB file should be available on demand.
36	PDU should have the ability to display all value from various sensors like temperature, humidity, smoke etc.
37	PDU should allow user configurable threshold for all connected sensors
38	PDU should support integration with Power Management Software for providing periodical data of power consumption
39	PDU should support rule based actions in case of events to notify the user via soft alerts like email, SNMP, etc. or hard alerts like buzzer, hooter, controlling power to a specific device
40	CE, ICES-003, Part 15 Class A of the FCC rules, RoHS compliant, EN50600 Ready

24.4.2412-9U Wall Mountable Network Rack

Sl. No.	Minimum Specification
1	19" Wall mountable supplied with mounting kit and One Power strips having 6 Nos - 5A/15A sockets each incl 1 no additional as spare (Power strip/distribution shall have surge & spike protection). All incoming & outgoing shall be through Double Pole isolation MCBs in addition to RCCB's. Rack shall be supplied in fully assembled condition with all hardware.
2	The racks must have steel (solid / grill / mesh) back doors and side panels.
3	Front doors should be designed with quick release hinges allowing for quick and easy detachment without the use of tools.
4	Fan 90CFM 230V AC, 4" dia (2 Nos. per Rack)

5	Detachable side panels (set of 2 per Rack)

24.4.25Air Conditioner

Sl. No.	Minimum Specification
1	1/2 Ton inverter based 5 Star Spilt Air Conditioners suitable for wall mounting working on 230 volts, 50 Hz, SPAC power supply with matching capacity electronic voltage stabilizer. i. Noise Level – Less than 40 db ii. The AC should support WiFi based control iii. Warranty: Minimum 5 years on compressor · Minimum 5 years on condenser Mounting/ Fitting indoor & outdoor units at the respective locations as per standard practice including Leak testing and additional refrigerant charge if required. Supply, installation, testing and commissioning of suitable size copper refrigerant lines (suction and return) including insulation of minimum 13 mm thickness nitride rubber with aluminum foil covering along with required electrical and control cabling as per standard practice. Supply and laying of 35mm-40 mm dia. PVC drain piping as per standard practice including U trap per each AC. ACs to be supplied with compatible sequential controller. iv. OEM should have direct service support at Patna

24.4.26 Surveillance Signage

Sl. No.	Minimum Specification
1	Material: Stainless steel / Aluminum Sheets
2	Dimension: Approximately 400*300 mm with frame and fixtures for pole/wall mounted
3	Thickness: Minimum 3mm
4	Quality of Imprint: All text and logos to be silkscreen printed and then finished with protective quoting.
5	Content and design to be discussed with selected bidder. The surveillance signages shall be in 2 languages (Hindi & English). The content shall be decided later.

24.4.27Power Cable

Sl. No.	Minimum Specification
1	3-Core, 2.5 Sq mm, with annealed electrolytic multistrand copper conductor with resistance > less than 41 Ohm/Km; Fire retardant, low smoke, low toxic, PVC black outer sheath meeting BS-5308, insulated (min 0.3 mm inner+1.8 mm outer sheath) Rated for 1.1KV, For Outdoor: GI round wire Armored with galvanized steel wire with 90%+ coverage; IS 694:1990 reaffirmed 1995 or latest compliant. Cable drum lengths shall be adequately considered to minimize joints. Higher Cable sizes (if required) to meet the distance/higher current consumption requirements (from sources up to 500 Mtrs away) shall be considered by the bidder instead of the 2.5 sq.mm cables indicated, at no extra cost to BSEDC. Shall prevent moisture ingress even due to outer sheath damage / poorly sealed joints. Cable shall be suitable for direct burial also. Cable shall have its running meter stamped/marked every 1 Mtr (to be resistant to damages caused by cable pulling activities). UV resistant outer insulation of Black color.

24.4.28Outdoor (Field) Junction Box

Sl. No.	Minimum Specification
1	IP65 or better junction box Minimum JB size 90 mm x 90 mm x 60 mm suitable for outdoor application, suitable for use in extreme weather conditions. Junction Box- Pole mounted type having all the mounting accessories with Compact LIU - 6 Core fully loaded with Splice box, Tray, Adaptor, Pigtail -6 Nos, Patch cord-3 Nos and Cable spool, Splicing, I/c termination etc. complete as required for connectivity to single mode fiber cable Surge protection device along with other necessary protection & isolation switchgears to be provided
2	The box shall have customized locking mechanism.
3	The box shall have wire management (including OFC, power, Ethernet Loop).
4	The box shall fit all the field equipment (Amplifier, Media Converter/Switch, Power Supply, LIU, PoE injector, Patch Panels etc.) with proper mounting arrangements.
5	The door shall be surface mounted with 130° opening. It shall have concealed removable hinges with captive pin. Hinges can be mounted to allow left- or right-hand opening.
6	Sealing shall be ensured by an injected one-piece polyurethane gasket or better.
7	Bidders will have to estimate the size of the junction box which shall accommodate all the equipment installed on the field for any location.
8	The junction box shall be of SS construction complete with SS mounting arrangements, accessories, bolts, nuts, washers, screws, etc.
9	JB shall have power isolation provisions using Double pole MCB for incomers & outgoings in addition to RCCB's.
10	JB shall have terminal blocks(WAGO) for power wiring & for connection of communication wires (part of OFC cable), properly segregated.
11	All individual components in the Junction Box shall be provided with clear & legible printed acrylic labels indicating the component type.
12	The junction box shall also have a drawing pocket complete with all as-built drawings for the relevant Junction Box.
13	All cable entries shall be through double compression SS cable glands (only from the bottom of Junction Box).
14	Unused cable entries shall be provided with SS plugs.
15	Junction box shall be provided with an additional FRP canopy to completely cover the Junction Box from rainfall (in any direction). The Canopy shall have suitable coverage.

24.4.29Anti-Climb Poles

Sl. No.	Minimum Specification
1	Height - as required based on site topography & coverage requirements, including any overlapping coverages with adjacent cameras; Successful bidder to provide the detailed drawings of Poles and specifications of the pole. Supply & Erection of minimum 5/7/10Mtrs long continuously tapered octagonal pole (bolt fixing type) in single section, with single longitudinal weld & Hot Dip Galvanized as per BSEN ISO 1461 Thickness: Average 70 Microns as per IS 2629 suitable for the CCTV installation including providing and laying in position 1:2:4 CC (1 Cement 2 Coarse Sand 4 Graded Stone Aggregate 40 mm Nominal size) of 450 x 450x 1000 mm deep, with 32mm GI pipe medium class collar bend for cable entry at the bottom of the foundation i/c grouting of 4 Nos. foundation bolts, including excavation & refilling in RCC Road complete as required as per drawing and specifications attached and with following specifications: (a) Top dia – 75 mm (b) Bottom dia – 125 mm (c) Thickness of sheet – 3mm (Not less than 3mm)

	(d) Base plate size – 200x200x16mm (e) The pole shall be complete with following:- Set of foundation bolts – 4 nos., 25mm dia, 750mm in length, complete with anchor plate. The foundation bolt shall be hot dipped galvanized. e. Pole construction shall not result-in / allow for water collection/stagnation inside the same. f. Foundation Depth-1500 mm

24.4.30 Chemical Earthing & Electrical Works

Sl. No.	Minimum Specification
1	All electrical components shall be design manufactured and tested in accordance with relevant Indian Standard IECSs, BIS etc.
2	All outdoor cabling to be done using ISI marked Metal conduit only and suitable metal joints, bends to be used. For indoor cabling ISI marked PVC conduit and suitable PVC joints, bends to be used.
3	Suitable ISI marked MCBs, Surge protectors, ACDBs and switch boards to be installed by the SI as per site requirement. No loose or open wiring, cable joint, termination allowed at any location.
4	High Resistance Earthing to be done with min specification as – 17 mm X **3 meter Pure Copper** bonded rod 250 micron, CPRI tested pre-welded with connection clamp on top 10*50*5. Highly conductive earthing mix compound with Carbon content more than 65 percent as per IS:1350, Sulphur content less than 0.4 percent as per ISO 4689- 3 and tested for resistivity as per IEC 62561-7 and ASTM G57-06 for resistivity of 0.2 ohms or less from national test house or NABL approved any other government lab. Heavy duty poly plastic earth pit cover of 10" dia (EPC 10) should be used to cover the earth pit. he cover must be tested for load bearing capacity of more than 1 ton.
5	1 Earthing to be done for each type of UPS.

25. Annexure 2-BOM & Format of Financial Bid

Note: Bidder need to upload/submit the locked excel sheet given in Eproc website only against the price/financial bid. Financial bid submitted in any other editable excel format will lead to rejection of bid.

25.1 Total Project Financial

Financial Summary Sheet		
Total Project Financial (Z)		
#	**Cost Heads**	**Project Cost (in INR) including GST**
1.	**70% of Total Capex (X)**	0
2.	**Total Opex (Y)**	0
3.	**Total Project Cost (Z)=(X+Y)**	0
	Project Total Cost In Words:	

25.2 Project Capex(X)

#	Description	Total Price	GST @ 18%	Total Including GST
1.	Field Device Capex Cost (A)			
2.	CMC Capex Cost (B)			
3.	Passive & Electrical Capex Cost (C)			
	Total			
	Total Capex Value in Words			

25.3 Project Opex Cost(Y)

#	Description	Total Price	GST @ 18%	Total Including GST
1.	30% of Project Capex cost as Opex cost (i.e. 30% of X)			

2.	O&M Manpower Cost(D)			
Total				
Total Opex Value in Words				

25.4 Phase I Field Device Capex Cost(A)

A	Item Description	Reference Specification Section as per RFP	UoM	Qty(i)	Unit Rate(ii)	GST Amount (iii)	Unit Rate including GST(iv)={ii+iii}	Total Rate including GST(v)={i X iv}
1	**Fixed Cost (Design, Engineering, Manufacture, Procurement of materials and brought-out items/components, assembly at shop, system engineering, internal testing, integration, inspection, factory testing and acceptance at manufacturer's works, packing, delivery of the following items including all required consumables, erection materials, training, documentation, resolution of all punch points & final site acceptance test as per specifications, codes, standards & instructions provided of):**							
1.1	5MP Fixed IR Dome Camera with mounting accessories	24.4.1	No.	261			0	0
1.2	5MP IR Bullet Camera with mounting accessories	24.4.2	No.	370			0	0
1.3	Multisensor Panoramic Camera with mounting	24.4.3	No.	6			0	0
1.4	5 MP Fixed Box Camera	24.4.4	No.	36			0	0

	IK10 Housing with Pole Mount						0	0
	5-50mm HD Autoiris Varifocal lens						0	0
	External IR Illuminator with mounting Power Supply and all mounting accessories						0	0
1.5	2MP 30X IR PTZ Camera	24.4.5	No.	16			0	0
2	Industrial Grade outdoor switch	24.4.10	No.	50			0	0
3	Industrial Grade Media Converter	24.4.9	No.	16			0	0
4	Indoor 24 Port Access Switch	24.4.11	No.	50			0	0
5	24 Port Distribution Switch	24.4.12	No.	12			0	0
6	Public Address System including 20 Outdoor horn speakers and 15 Indoor speakers as per specification	24.4.13	Lot	1			0	0
7	20 KVA Online UPS with 60 Min backup on full load, Battery Bank as per	24.4.26	Lot	5			0	0

	specification							
	Grand Total							0
Note: Item names are indicative. If not specified all software, feature and user access license,hardware including accessories to be considered as lot under single item as per details specification and qty mentioned in the RFP, Corrigendum and Eform								

25.5 CMC Capex Cost(B)

B	Item Description	Reference Specification Section as per RFP	UoM	Qty(i)	Unit Rate(ii)	GST Amount (iii)	Unit Rate including GST(iv)={ii+iii}	Total Rate including GST(v) = {i X iv}
1	65" 4K 24X7 Operational 500 Nits LED Panel with wall mount accessories	24.4.23	No.	2			0	0
2	12 no. of Videowall Panel,Videowall Processor & Controller Server,Speakers with software & all accessories	24.4.22	Set	1			0	0
3	Server (Qty. as per sizing including VMS,Directory, Database, PA, EMS/NMS/AMS,2 Factor Authentication,Access Control software and any other server requirement) including OS,Virtualization and other license cost with NBD onsite support for 5 years by OEM	24.4.14	Lot	1			0	0
4	Mobile Streaming Server as per specification	24.4.29	No.	1			0	0

5	Workstations with 2 no. of LED Monitors and Metal floor stand with wheel	24.4.15	Sets	5			0	0
6	Joystick	24.4.6	No.	2			0	0
7	Layer 3 Distribution Switch	24.4.12	No.	2			0	0
8	Layer 3 Core Switch	24.4.20	Sets	2			0	0
9	Layer 3 Server Firm Switch	24.4.21	Sets	2			0	0
10	Firewall with all accessories & 4G Dongle with SIM cards and 5 Year Post paid unlimited ISP Internet only plan as per functional requirement	24.4.28	Lot	1			0	0
11	AIM Solution Including Intelligent Passive Hardware (As per specification given in excel format under 25.4.18 as part of final specification given in excel)	24.4.18	Lot	1			0	0
12	Video Analytics Software License	24.4.8	Lot	1			0	0
13	Video Management Software	24.4.8	Lot	1			0	0
14	2 Factor Authentication system	24.4.19	Lot	1			0	0
15	Storage 1.5PB Usable Space	24.4.16	No.	1			0	0
16	Infrastructure Monitoring, Helpdesk SLA & Contract Management Software for all network node license as per functional and technical specification	24.4.27	Lot	1			0	0
17	42 U Server Rack with all accessories	24.5.22	No.	1			0	0

18	42 U Network Rack with all accessories	24.5.22	No.	1			0	0
19	IP PDU	24.5.24	No.	4			0	0
20	KVM Switch	24.5.23	No.	1			0	0
21	60 KVA Modular UPS with 45 min backup using LiIon Battery Bank	24.4.25	Sets	1			0	0
22	NTP Server	24.4.17	Set	1			0	0
23	18 Feet Portable,Foldable heavy duty Telescopic Aluminium Ladder	Reputed	No.	1			0	0
24	Crimping Tool	Reputed	No.	2			0	0
25	ONVIF Compliant handheld CCTV Tester	24.4.7	No.	1			0	0
26	Network Continuity Tester	Fluke	No.	2			0	0
27	Clamp Multimeter	Fluke	No.	1			0	0
28	Access Control System including EM Locks and all accessories for 2 doors	24.4.24	Lot	1			0	0
29	Air Conditioner 1 Ton with stabilizer and sequential controller	24.5.26	No.	3			0	0
30	Air Conditioner 2 Ton with stabilizer and sequential controller	24.5.27	No.	3			0	0
	Grand Total (B)							0
Note: Item names are indicative. If not specified all software, feature and user access license,hardware including accessories to be considered as lot under single item as per details specification and qty mentioned in the RFP, Corrigendum and Eform								

25.6 Civil Electrical Capex Cost(C)

C	Item Description	Reference Specification Section as per RFP	Uo M	Qty(i)	Unit Rate(ii)	GST Amou nt (iii)	Unit Rate including GST(iv)={ii +iii}	Total Rate includi ng GST(v) = {i X iv}
1	Civil Electrical and Passive works for CMC and NOC with all items as per specifcation	24.5.1	Lot	1			0	0
2	Armoured Double Jacket CAT 6 UTP Cable	24.5.2	Mtr	3500			0	0
3	CAT6 A UTP For Indoor	24.5.3	Mtr.	2500			0	0
4	Maintenance Free Chemical Earthing 3 Pits against each UPS	24.5.31	No.	6			0	0
5	Manual Trencing(JCB/La bour) Fiber laying under 1-1.2 meters (3-4 ft.) deep with proper HDPE pipe and marker tape. Route marker shall be placed after each 100 mtr. The Height of the Route marker shall not be less than 1 Mtr. Route detail shall be available on route marker.	24.5.19	Met er	3500			0	0
6	Precast Manhole(Splice Chamber) Construction (Size 2.0 m length X 1.0 m width X 1.65 m Depth) with proper plaster. Bricks wall with		No.	10			0	0

	plaster and concreate pit cover.							
7	Renovation of CCC room (size 35x20 ft.) include but not limited to Vinyl flooring, painting, false ceiling, lighting, adequate switch as socket. EM lock etc.	24.5.1	Lot	1			0	0
8	Rack 1209U Wall Mount	24.5.25	Nos	80			0	0
9	All Cabling including OFC, CAT 6, Wiegand, Electrical, Control etc.		Lot	1			0	0
10	Armoured SM OFC Cable 48 Core	24.5.10	Mtr	2000			0	0
11	Armoured SM OFC Cable(12/6 Core)	24.5.8 and 25.5.9	Mtr	15000			0	0
12	Splicing & Termination of Fiber (With OTDR) Indoor and Outdoor		No.	2000			0	0
13	Armored Double Jacket Cat 6 UTP Cable	24.5.2	Mtr	8000			0	0
14	Cat 6 A UTP Cable	24.5.3	Mtr	30000			0	0
15	3 M CAT6 A UTP PatchCords	24.5.4	No.	800			0	0
16	Cat 6 Field Termination Plug	24.5.7	No.	800			0	0
17	3 x2.5 Sqmm Armoured power cable	24.5.28	Mtr	1000			0	0
18	3 x6 Sqmm Armoured power cable	24.5.28	Mtr	3500			0	0
19	Power DB with 60 AMP MCB and ELCB with		Sets	6			0	0

	required 15A sockets							
20	All Conduits, including Cable Trays, PVC, Casing Capping etc	24.5.21	Lot	1			0	0
21	40" HDPE Duct along with associated accessories	24.5.16	Mtr	3500			0	0
22	GI Pipe	24.5.21, 24.5.17	Mtr	2500			0	0
23	Other Network Accessories (LIUs, patch cords, etc.)	24.5.5,24.5.6,24.5.12	Lot	1			0	0
24	24 Port CAT 6A Patch Panel	24.5.5	Lot	65			0	0
25	24 Port Rack mountable LIU with Loaded Pigtails & adapters	24.5.13,24.5.14	Nos	13			0	0
26	12/6 Port Rack mountable LIU With Loaded Pigtails & adapters	24.5.12,24.5.13,24.5.14	Nos	22			0	0
27	12 Port DIN Rail Mount LIU	24.5.15	Nos	50			0	0
28	2/3m Camera Poles with Junction Box and foundation	24.5.29, 24.5.30	Nos	6			0	0
29	3/5m Camera Poles with Junction Box and and foundation	24.5.29, 24.5.30	Nos	20			0	0
30	5/7m Camera Poles with Junction Box and foundation	24.5.29, 24.5.30	Nos	15			0	0
31	Electronic Route Marker	24.5.18	Nos	20			0	0
32	Concrete Route Marker		Nos	25			0	0
33	OFC Joint Closure	24.5.11	Nos	10			0	0
34	Concrete Joint Marker		Nos	10			0	0

35	Surveillance Signage	24.5.27	Nos	150			0	0
36	All/Any other electrical and passive equipment and accessories		Lot	1			0	0
	Grand Total (C)							0
Note: Item names are indicative. If not specified all software, feature and user access license,hardware including accessories to be considered as lot under single item as per details specification and qty mentioned in the RFP, Corrigendum and Eform								

25.7 O&M Manpower Cost(D)

Resource Support Cost for Five Years					
A	**Qty**	**Resource /month(in INR)**	**Total 5 years Salary for all resources**	**GST Amount**	**Grand Total**
Support Engineer for Network and Electrical trouble shooting will be working in shift	2	60			0
Support Engineer for CCTV primary trouble shooting will be working in shift	2	60			0
B		**Resource /month(in INR)**			
Project manager with VMS experience (Will be working in shift 9AM to 6 PM all court working days)	1	60			0
Total for 5 years in INR (E)					**0**
Shifting hours for Support Engineers 24X7-(Shift 1-9AM to 6PM, Shift 2-3 PM-9PM,Shift3-8PM-9AM) Minimum 2 support engineers to be present during 9AM-6PM shift on all court working days along with project manager.					

25.8Extra Work BOM Rate During O&M(E)

F	**Item Description**	**UoM**	**Qty(i)**	**Unit Rate(ii)**	**GST Amount (iii)**	**Unit Rate including GST(iv)={ii+iii}**	**Total Rate including GST(v)= {i X iv}**
1	Indoor Camera shifting beyond 10 Meter	No.	10			**0**	**0**

	involving only UTP cabling						
2	Outdoor camera shifting beyond 10 meter involving only UTP cabling	No	10			**0**	**0**
3	Outdoor camera(Bullet/PTZ) shifting beyond 10 meter involving UTP and OFC cabling	Lot	5			**0**	**0**
4	Outdoor camera(Bullet/PTZ) shifting beyond 10 meter involving Power cabling, Pole shifting/installation,JB, UTP and OFC cabling	Lot	5			**0**	**0**
5	Shifting of Indoor/Outdoor PA speaker involving UTP cabling	No.	2			**0**	**0**
6	Manual Trencing(JCB/Labour) Fiber laying under 1-1.2 meters (3-4 ft.) deep with proper HDPE pipe and marker tape.	Meter	10			**0**	**0**
7	SITC of All indoor CAT 6 Cable laying including all accessories	Meter	100			**0**	**0**
8	SITC of All outdoor CAT 6 Cable laying including all accessories	Meter	100			**0**	**0**
9	SITC of Armoured SM OFC Cable 48 Core cable laying including all accessories	Mtr	100			**0**	**0**
10	SITC of Armoured SM OFC Cable(12/6 Core) including all accessories	Mtr	200			**0**	**0**
11	Splicing & Termination of Fiber (With OTDR) Indoor and Outdoor	No.	25			**0**	**0**
12	SITC of Power cable laying including all accessories	Mtr	500			**0**	**0**

13	Shifting of 20 KVA UPS and battery bank and reconnection including SITC of all accessories as per requirement	Lot	1			**0**	**0**
	Grand Total (F)						0
Note:This price schedule is mandatory and no bidder should quote "0" zero against any of the line item.However this price schedule is only for price discovery. This schedule will not be part of L1 calculation. The successful L1 bidder need to match Lowest price of this schdule separately quoted by any other bidder without any prior condition. This price will be used during any extra work/additional work during post Go-live O&M Phase for 5 years on pro rata/actual requirement basis on justified ground i.e. scope beyond RFP.							

26. Annexure 3 – Formats of Technical Bid

26.1 Form 1- Undertaking on Total Responsibility

Tender Ref. Date:

To:

Managing Director,

Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Dear Sir,

Sub: Self certificate regarding Total Responsibility

This is to certify that we undertake total responsibility for the successful and defect free operation of the proposed Project, as per the requirements and terms and condition of the RFP for CCTV Surveillance & Public Address System at Patna High Court Surveillance Project of Bihar.

Thanking you,

Yours faithfully
(Signature of the Authorized signatory of the Bidding Organization)
Name :

Designation :

Date :

Seal :

Business Address:

26.2Form 2- Particulars of the Bidder

NIT-BSEDC/XXXX/2020 Dated XX.08.2020					
I. Firm Details :					
A1	Name of the bidding Company				
A2	Registered Office Address				
A3	Address of Office(s) in Bihar (if Any). Indicate NA in case no offices are in Bihar				
B	Incorporation Status of the firm	**Public Limited**	**Private Limited**	**Partnership**	**Proprietary**
	Enter "**Yes** "in appropriate box				
C	Year of Establishment				
D	Date of Incorporation				
E	ROC Reference No				
F1	Registration Number				
F2	PAN Number				
14	Date of Commencement of Business				
G	GSTIN				
H	Details of Contact Person				
H1	Name				
H2	Address				
H3	E-mail id				
H4	Phone Number				
H5	Mobile Number				
I	Name & Designation of Authorized Signatory				

26.3Form 3- Manufacturers'/Producers' Authorization Form

(This form has to be provided by the OEMs of the products proposed. Separate MAF's to be provided from OEM if same item has different parts from different OEM)

Tender Ref. Date:

To:

Managing Director,

Bihar State Electronics Development Corporation (BELTRON)

BELTRON Bhawan

Shastri Nagar

Patna 800023

Subject: OEM Authorization Letter for Patna High Court CCTV Surveillance & PA System

Dear Sir,

We, (name and address of the manufacturer) who are established and reputed manufacturers of having factories at (addresses of manufacturing locations) do hereby authorize (name of the bidders & address of the manufacturer) to bid, negotiate and conclude the contract with you against the above mentioned tender for the below equipment manufactured by us.

Item	Name of OEM and brand/ Make	Model no.

We hereby extend our full guarantee and warranty as per the RFP Conditions for the goods offered for supply and installation against this RFP offered by the above firm. We also declare to provide direct onsite unconditional technical support by our team during installation and commissioning as per RFP terms and condition mentioned under section 25.1.

Yours
faithfully,

For and on behalf of M/s (Name of the manufacturer)
Signature
Name
Designation
Date
Stamp

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer.

26.4Form 3A- No Malicious Code Undertaking Letter

To
Managing Director,
Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan,
Shastri Nagar,Patna,
Bihar, 800023.

Dear Sir,
Sub: Undertaking for No Malicious Code for RFP no. BSEDC/…./.. for Selection of System Integrator for Implementation of CCTV Surveillance System and Public Address System at Patna High Court dated xx-xx- 2019.

Over and above all our earlier conformations and submissions as per your requirements of the RFP, we confirm that,

1. All proposed hardware and software components in scope of supplies (Cameras, System, Switches, Software etc.) when shipped by_____, does not contain embedded malicious code that would activate procedures to:-
   a) Inhibit the desired and designed function of the equipment.
   b) Cause physical damage to the user or equipment during the exploitation.
   c) Tap information resident or transient in the equipment/networks.

2. We,_____will be considered to be in breach in case physical damage or malfunctioning is caused due to activation of any such malicious code in embedded software and thus be liable to repair, replace or refund the price of the infected software if reported (or, upon request, return) to the party supplying the software to Customer, if different than _____

Place: Date
Seal and signature of the bidder

(This letter should be on the letterhead of the bidder duly signed by an authorized signatory)

26.5 Form 4- Undertaking of Service Level Compliance

Tender Ref. Date:

To:

Managing Director,

Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Dear Sir,
Sub: Undertaking on Service Level Compliance

1. I/We as Implementing Agency do hereby undertake that we shall monitor, maintain, and comply with the service levels stated in the RFP to provide quality service to BSEDC.
2. However, if the proposed resources and ICT components are found to be insufficient in meeting the RFP and/or the service level requirements given by BSEDC, then we will augment the same without any additional cost to BSEDC.

Yours faithfully,

(Signature of the Authorized signatory of the Bidding Organization)
Name :
Designation :

Date :

Seal :

Business Address:

26.6Form 5- Undertaking on Exit Management and Transition

Tender Ref. Date:

To:

Managing Director,

Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Dear Sir,

Sub: Undertaking on Exit Management and Transition

1. I/We hereby undertake that at the time of completion of our engagement with the BSEDC, either at the End of Contract or termination of Contract before planned Contract Period for any reason, we shall successfully carry out the exit management and transition of this Project to the BSEDC or to an agency identified by BSEDC to the satisfaction of the BSEDC. I/We further undertake to complete the following as part of the Exit management and transition:
    a. We undertake to complete the updation of all Project documents and other artefacts and handover the same to BSEDC before transition.
    b. We undertake to design standard operating procedures to manage system (including application and IT systems), document the same and train BSEDC personnel on the same.
    c. If BSEDC decides to take over the operations and maintenance of the Project on its own or identifies or selects any other agency for providing operations & maintenance services on this Project, then we shall provide necessary handholding and transition support, which shall include but not be limited to, conducting detailed walkthrough and demonstrations for the IT Infrastructure, handing over all relevant documentation, addressing the queries/clarifications of the new agency with respect to the working / performance levels of the ICT components , conducting Training sessions etc.
2. I/We also understand that the Exit management and transition will be considered complete on the basis of approval from BSEDC.

Yours faithfully,

(Signature of the Authorized signatory of the Bidding Organization)

Name :

Designation :

Date :

Seal :

Business Address:

26.7Form 6- Declaration that the bidder has not been blacklisted

(To be submitted on the Letterhead of the responding agency)

Tender Ref. Date:

To:

Managing Director,

Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Sub: Self Declaration of not been blacklisted in response to the RFP <<****>>

Dear Sir,

We confirm that our company,_____, is not blacklisted in any manner whatsoever by any of the State/UT and/or central government in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as on date__/__/_____.

Place: Date:

Bidder's Company Seal: Authorized
Signatory's Signature:
Authorized Signatory's Name and Designation:

Note: The Bidder shall necessarily provide a copy of Board resolution/'Power of Attorney' authorizing the signatory for signing the Bid on behalf of the Bidder in its Pre-Qualification Bid.

26.8Form 7- Statement of Deviation from Requirement Specifications

Tender Ref. Date:

To,

Managing Director,

Bihar State Electronics Development Corporation (BELTRON) BELTRON Bhawan
Shastri Nagar
Patna – 800023

Reference: Tender Number ……..…. Dated ……..… Sir,
There are no technical deviations (null deviations) from the requirement specifications of tendered items and schedule of requirements. The entire work shall be performed as per your specifications and documents. OR *(Strike out whatever is not applicable) Following* is the exhaustive list of technical deviations and variations from the requirement specifications of tendered items and schedule of requirements. Except for these deviations and variations, the entire work shall be performed as per your specifications and documents**.**

We also declare that if technical deviation/noncompliance is found for any of the RFP items during stage of bid evaluation or implementation then BSEDC may ask us to change the component with 100% complied component without any cost implication.

S. No.	Section No.	REQ No.	Page No.	Statement of deviations and variations
1.				
2.				

Authorized Signatory
Name :
Designation:
Seal:

26.9Form 8- Statement of Deviation from Tender Terms and Conditions

Tender Ref. Date:

To,

Managing Director,

Bihar State Electronics Development Corporation (BELTRON) BELTRON Bhawan
Shastri Nagar
Patna – 800023 Sir,

There are no deviations (null deviations) from the terms and conditions of the tender. All the terms and conditions of the tender are acceptable to us.

OR *(Strike out whatever is not applicable)*

Following are the deviations from the terms and conditions of the tender. These deviations and variations are exhaustive. Except these deviations and variations, all other terms and conditions of the tender are acceptable to us.

S. No.	Section No.	Page No.	Para	Statement of deviations and variations
1.				
2.				

Authorized Signatory
Name :
Designation:
Seal:

26.10 Form 9- Warranty Certificate

(On the bidder's Letterhead)
Tender Ref. Date: dd/mm/yyyy

To,

Managing Director,
Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Sir,

We warrant that the equipment(s) supplied under the contract would be newly manufactured, free from all encumbrances, defects and faults in material or workmanship or manufacture, shall be of the highest grade and quality, shall be consistent with the established and generally accepted standards for materials of the type ordered, shall be in full conformity with the specifications, drawings of samples, if any, and shall operate as designed. We shall be fully responsible for its efficient and effective operation. We also warrant that the services provided under the contract shall be as per the Service Level Agreement (SLA) with BSEDC. This warranty shall survive inspection of and payment for, and acceptance of the Equipment and Services and shall expire only after 5 years after their successful installation and acceptance by BSEDC.

We warrant that all services to be provided under the contract shall be as per our Service Level Agreement (SLA) with BSEDC. This warranty on services provided shall remain valid for the entire duration of the services contract from the date of acceptance by BSEDC.

The obligations under the warranty expressed above shall include all costs relating to labor, tools, spares, maintenance (preventive as well as unscheduled), and transport charges from site to manufacturer's works / service facilities and back for repair or modification or replacement at site of the equipment or any part of the equipment, which under normal care and proper use and maintenance proves defective in design, material or workmanship or fails to operate effectively and efficiently or conform to the specifications and for which notice is promptly given by BSEDC to us (bidder). We shall provide on-site support for all the equipment and services supplied hereunder during the period of this warranty (5 years after acceptance for equipment and entire service period for services).

_____

Authorized Signatory
Name :
Designation:
Seal:

26.11 Form 10- Undertaking on Office Premises (in firm/ company letter head)

This is to certify that << COMPANY NAME >> has an office in Patna / Bihar. Relevant address proof and supporting documents are enclosed.

Company Secretary / Authorized Signatory
Name of Signatory:
Bidder Name:
Date
Place

26.12 Form 11- Performance Guarantee

PERFORMANCE GUARANTEE

Ref:
Bank Guarantee No: Date:

To
Managing Director,
Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

1. Against contract vide Advance Acceptance of the Tender No. Dated covering "RFP for

Implementation of CCTV Surveillance and Public Address System at Patna High Court and services across the state" (hereinafter called the said 'contract') entered into between BELTRON, Government of Bihar, (hereinafter called the Purchaser) and M/s._____, a Company incorporated under the Companies Act, 1956 and having its Registered Office at .....(hereinafter called the Bidder) this is to certify that at the request of the Bidder we (name of the Bank / Branch .....) a body corporate constituted under the Banking Companies [Acquisition and Transfer of Undertakings] Act, 1970 and having its, Registered Office at..... and a branch office at ..... are holding in trust in favor of the Purchaser, an amount of Rs.....(Rupees .....only) to indemnify and keep indemnified the Purchaser against any loss or damage that may be caused to or suffered by the Purchaser by reason of any breach by the Bidder of any of the terms and conditions of the said contract and/or in the performance thereof. We agree that the decision of the Purchaser, whether by any breach of any of the terms and conditions of the said contract and/or in the performance thereof has been committed by the Bidder and the amount of loss or damage that has been caused or suffered by the Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forthwith on demand and without demur to the Purchaser.

2. We (Name of the Bank /Branch)..... further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfillment in all respects of the said contract by the Bidder i.e. till_____hereinafter called the said date and that if any claim accrues or arises against us_____(Name of the Bank /Branch) by virtue of this guarantee before the said date, the same shall be enforceable against us .....(Name of the Bank/Branch) notwithstanding the fact that the same is enforced within six months after the said date, provided that notice of any such claim has been given to us .....(Name of the Bank/Branch) by the Purchaser before the said date. Payment under this guarantee shall be made promptly upon our receipt of notice to that effect from the Purchaser.

3. It is fully understood that this guarantee is effective from the date of the said contract and that we..... (Name of the Bank /Branch) undertake not to revoke this guarantee during its currency without the consent in writing of the Purchaser.
4. We undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Bidder in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal.
5. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Bidder shall have no claim against us for making such payment.

6. We .....(Name of the Bank / Branch) further agree that the Purchaser shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the Bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Bidder and to forebear or enforce any of the terms and conditions relating to the said contract and we, ...(Name of the Bank / Branch) shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said Bidder or for any forbearance by the Purchaser to the said Bidder or for any forbearance and or omission on the part of the Purchaser or any other matter or thing whatsoever, which under the law relating to sureties, would, but for this provision have the effect of so releasing us from our liability under this guarantee.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder.

Notwithstanding anything contained herein:

i) Our liability under this Bank Guarantee shall not exceed of Rs..... (Rupees in words only). ii). The Bank Guarantee shall be valid up to .....; and;

iii) We..... (Name of the Bank / Branch) are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ##.....

Authorized Signatory of the Bank

Signature

Full name/designation/ Address of the official and date

WITNESS NO. 1

Signature

Full name/designation/ Address

WITNESS NO. 2

Signature

Full name/designation/ Address

26.13 Form 12- Bank Guarantee for Earnest Money Deposit

To,
Managing Director,
Bihar State Electronics Development Corporation (BELTRON)
BELTRON Bhawan
Shastri Nagar Patna
– 800023

Whereas <Name of the bidder> (hereinafter called 'the Bidder') has submitted the bid for Submission of RFP # <RFP Number> dated <Date> for <Name of the assignment> (hereinafter called "the Bid") to BSEDC

Know all Men by these presents that we < > having our office at <Address> (hereinafter called "the Bank") are bound unto BSEDC (hereinafter called "the Purchaser") in the sum of Rs. <Amount in figures> (Rupees <Amount in words> only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this <Date>

The conditions of this obligation are:

1. If the Bidder having its bid withdrawn during the period of bid validity specified by the Bidder on the Bid Form; or

2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of validity of bid

    (a) Withdraws his participation from the bid during the period of validity of bid document; or

    (b) Fails or refuses to participate in the subsequent Tender process after having been short listed;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to <insert date> and including <extra time over and above mandated in the RFP> from the last date of submission and any demand in respect thereof should reach the Bank not later than the above date.

NOTHWITHSTANDING ANYTHING CONTAINED HEREIN:

I. Our liability under this Bank Guarantee shall not exceed Rs. <Amount in figures> (Rupees <Amount in words> only)
II. This Bank Guarantee shall be valid up to <*insert date*>)
III. It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <*insert date*>) failing which our liability under the guarantee will automatically cease.

(Authorized Signatory of the Bank) Seal:
Date:

26.14 Form 13- Pre-Qualification - Compliance Sheet

Sr. No.	Qualification Criteria	Evidence Documents/Information to be provided	Document Reference
1.	The responding firm/agency	(a) Cost of tender document must be submitted through E-payment only; else bid will be summarily rejected.	
	(a) Should have made a payment of INR.5,000.00 (Rupees ten thousand) (non- refundable) for the Tender Fee.	(b) EMD should be in favor of "Bihar State Electronics Development Corporation Ltd' Payable at Patna and issued by any scheduled / nationalized bank in the form of a original bank guarantee. Bidders can also deposit the EMD through online payment in state e-procurement site.	
	(b) Should have submitted single EMD of INR. 30,000,000.0 (Rupees Thirty Lakh only)		
2.	Legal Entity	a) Copy of Certificate of Incorporation	
	The Company should be in the IT/ITES/ Surveillance business for at least 5 (five) years as of 31st March 2020 and should be registered under Companies Act, 1956	b) Copy of Registration Certificate	
	Registered with the GST and Provident Fund authorities in India	c) Form 2 :- "Particulars of the Bidder"-	
		Copy of all documents listed above should be attested by authorized signatory and must be submitted along with the response	
		a) Copy of PAN Card	
		b) Copy of GST Certification	
		c) Copy of EPF and ESI Registration	
		Copy of all documents listed above should be attested by authorized signatory and must be submitted along with the response	
3.	The Net Worth of the bidder must be positive for the last 3 financial year(FY 17-18, FY 18-19, FY 19-20)	Separate Chartered Accountant Certificate for positive Net worth for bidder mentioning net worth of each year.	
4.	The bidder must not be blacklisted by any Government/Public Sector organization /department in India at the time of submission of the response to this RFP for last 3 years (FY 17-18 & FY 18-19, FY 19-20)	A declaration as per the format prescribed in Form - "Declaration that the bidder has not been blacklisted" to be given by the authorized signatory of the responding firm and consortium partner (if any) separately – Annexure – 3, Form 6	
5.	Bidder's Average annual Sales Turnover must be **INR 40 Crores** or above or Cumulative turnover of **120 Cr** for the last 3 audited financial years	Audited accounts of the company as filed before the Registrar of Companies. In case the breakup of revenues is not available in the manner required in the audited Balance Sheet, the Bidder shall submit a certificate to this effect from the statutory auditor of the company/CA of the company.	
	In case Bidder is a wholly owned subsidiary, the financial experience of Parent company would be considered for eligibility, provided the parent company operates in India. In that case Parent company needs to provide an undertaking that		

	the parent company will take complete responsibility of the project.		
6.	The Bidder should have **successfully completed and running** at least 1 Single location similar IP CCTV Surveillance projects of 3**00 IP cameras** or **2 projects of 200 IP CCTV cameras or 3 Projects 100 IP CCTV cameras** each for Government/PSU/ Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years **Definition of Similar Project:** IP CCTV Surveillance project with IP cameras. Note: Any large ongoing project with work order issue date before 31st December 2019 PAT/FAT/SAT certificate/ declaration from client clearly mentioning Go-Live IP CCTV camera quantity details may be considered as successfully completed project reference.	Client certificate/FAT/Go-Live certificate and mandatory **Client satisfactory performance certificate** from competent authority with contact details, dates, project name, camera quantity, project details etc. of mentioned for validation.	
7.	The Bidder must have successfully completed and running similar projects for Government/PSU/ Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years) the following criteria-	Ref format: Form 14:- "Project Citation Format" supported with Work order or Purchase Order (PO) or Letter of Intent (LoI) and **Proof of Go-live, Client satisfactory certificates signed by the authorized official from client mentioning the scope of work and project value.** BSEDC may check the authenticity of the documents provided by the bidder.	
	Total number of IP CCTV cameras installed in the last **5 years>=1000.**		
	Note: Any large ongoing project with work order issue date before 31st December 2019 and PAT/FAT/SAT certificate/ declaration from client clearly mentioning Go-Live IP CCTV camera quantity details may be considered as successfully completed project reference.		
8.	The bidder must have successfully completed and running IP CCTV projects for Government / PSU/ Nationalized Bank/Large Enterprise(Listed company with 1000 Cr. Turnover in India for last 3 financial years) any one of the following criteria:	Ref format: Form 14:- "Project Citation Format" supported with Work order or Purchase Order (PO) or Letter of Intent (LoI) and Proof of Go-live/ Project completion/Client satisfactory certificates	
	1 order of value >=**14 crore.** OR		
	2 orders each of value >=10 crore OR		
	3 orders each of value >=7 crore.		

	Similar projects mean Security Surveillance projects involving IP CCTV camera and **LAN-WAN** works installation and maintenance. Any large ongoing project with work order issue date before 31st December 2019 and PAT/FAT/SAT certificate/ declaration from client clearly mentioning Go-Live details BOQ may be considered as successfully completed project reference.		
9.	The bidder shall have ISO 9001 :2015, and ISO 27001:2013 certification.	Copy of valid certificate as on date of bid submission to be provided.	
10.	The bidder must have at least 50 IT professionals (B.E/B.Tech/MCA/**BCA**/Diploma Engineer) on their direct payroll as on date of bid submission. 2 number of Minimum Graduates with Project Management certificate from Govt. institute and **5 Engineers** with Networking OEM certification.	Certificate/Declaration from HR Department for number of IT professionals employed by the company with name, qualification, Copy of certificate and PF/ESI number on letter head.	
11.	The bidder should have direct authorization from the Original Equipment Manufacturer (OEM) for SITC and supporting the equipment offered. **Mandatory to submit MAF from OEMs against all items under Annexure 1 of the RFP except Electrical equipment and furniture.**	Refer: Form: - "Manufacturers'/Producers' Authorization Form" for the MAF and complete the associated table provided with the form.– Annexure – 3, Form 3**. If the MAF is not in RFP specified format, then BSEDC may reject the bid.**	
12.	Bidder should have office/GST Registration in Bihar. Alternatively, if the bidder doesn't have an office/GST registration in Bihar, then they have to furnish an undertaking that an office/GST registration would be established in Bihar, within 1 (one) month of signing the contract, to provide O&M support for entire project period.	A self-certified declaration by the authorized signatory of the bidder should be submitted along with the proposal.	
13.	Signing authority(All bidder documents to be signed by authorized person only failing which bid may be rejected)	Separate "Copy of Board resolution" or POA for bidder authorizing the person to sign on behalf of the company or Power of Attorney for the designated person to be provided as per the format prescribed in Form "Bidder's Authorization Certificate". (Must be on a Non-Judicial INR 100/- Stamp Paper)"	

26.15 Form 14 - Project Citation Format

Relevant IT project experience	
General Information	
Name of the project	
Client for which the project was executed	
Name and contact details of the client (email, Phone no.)	
Project Details	
Description of the project	
Scope of services	
Service levels being offered/ Quality of service (QOS)	
Technologies used	
Outcomes of the project	
Other Details	
Total cost of the project	
Total cost of the services provided by the respondent	
Duration of the project (no. of months, start date, completion date, current status)	
Other Relevant Information	
Letter from the client to indicate the successful completion of the projects	
Copy of Work Order or Purchase Order (PO) or Letter of Intent (LoI)	

26.16 Form 15 - Team Composition

Name of Staff with qualification and experiences	Area of Expertise	Position Assigned	Task Assigned	Time committed for the engagement

Note: Each bidder to propose detail team composition during SITC period to be provided in E-form with minimum 1 project manager, 1 Project Co-Ordinator, 2 no. CCTV Installation and Commissioning Engineer each having more than 5 years' experience, 3 Technicians each having more than 8 years' experience.

26.17 Form 16 - Curriculum Vitae (CV) of Project Manager and L1 Engineers

General Information	
Name of the person & Photograph	
Current Designation/Job Title	
Current job responsibilities	
Proposed Role in the Project	
Whether resource is engaged by the firm in its own payrolls	Yes / No
Proposed Responsibilities in the Project	
Academic Qualifications: • Degree • Academic institution graduated from • Year of graduation • Specialization (if any) • Key achievements and other relevant information (if any)	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Summary of the Professional / Domain Experience	
Summary of Projects undertaken/worked on (Only project name, client name, client contact details)	
Details of Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: • Organizations worked for in the past o Organization name o Duration and dates of entry and exit o Designation Location(s) o Key responsibilities • Prior project experience o Project name o Client o Key project features in brief o Location of the project o Designation o Role o Responsibilities and activities	
Proficient in languages (Against each language listed indicate if speak/read/write)	

Note: This format is for E-Form only. Bidder to share details CV of proposed Project manager along with photograph and attested copy of all Degree certificates with their bid document as part of General cum Technical Bid.

26.18 Form 17 – Technical Qualification Compliance Sheet

To be declared in the bidders letter head

S. No	Aspect	Evaluation Criteria	Description	Compliance(Yes /No)	Supporting Documents Required
1	Financial Strength	Average annual Sales turnover/Cumulative Sales Turnover of the bidder in the last 3 audited financial years	**Average Turnover** a. >=40 Crores - 8 Marks b. >40 Crores and <=65 Crores -12 Marks c. >65 Crores and <=90 Crores – 16 Marks d. >90 Crores - 20 Marks Or **OR Cumulative Turnover** a. >120 Crores and <=180 Crores -8 Marks b. 180> Crores and <220 Crores -12 Marks c. >220 Crores and <250 Crores –16 Marks d.>250 Crore-20 Marks		Audited Balance sheets and certificate from CA
2	Past Experience	Technical Capability in executing & managing large IP Based CCTV Surveillance & Public Address system projects for Government / PSU / Nationalized Bank/Large Enterprise (Listed company with 1000 Cr. Turnover in India for last 3 financial years) in India	Total Number of **CCTV** cameras implemented in last 5 years as per pre-qualification terms (Work order copy to be submitted) a.>=**1000** cameras as per pre-qualification terms -5 marks b. For every 200 cameras more- 5 marks		Project citation highlighting the mentioned activities supported by Work order/Agreement/ Client Certificate
		Each Project order value-	**>=6 Crores – 5 Marks per project(Maximum 1 5Marks)**		Project citation highlighting the mentioned activities supported by Work order/Agreement/ Client Certificate
3	Specific Experience	At least 1 similar single location IP CCTV Surveillance projects of 300 cameras	a.= 300 Camera- 5 Marks b. For every 100 cameras more 5 Marks		All order reference and Go-Live certificate to be submitted.
4	Presence in Bihar	Presence in Bihar	a. Only have GST Registration in Bihar- 2 marks.		Project citation highlighting the

			b. Involved in a running Govt. project in Bihar but doesn't have an office/GST Registration in Bihar- 3 marks		mentioned activities supported by Work order/Agreement/ Client Certificate & Copy of Registration Certificate as proof of presence in Bihar (if applicable)
			c. Involved in a running Govt. project in Bihar and also have an office and GST Registration in Bihar - 5 marks		
5	Fulltime Deployment Resource Criteria for entire duration of the contract	Project Manager (1)	Must have >=08 years **of post-qualification (Graduation) work experience in ICT infrastructure project management/execution/consultancy.**		Detailed CV in given format along with copy of all certificates.
			Qualification:		
			• Regular BE/B. Tech(in IT/CS/ECE/Electrical/Electronics)/ Regular MCA **and** Regular MBA/**2 Year PGDBM = 5 Marks**		
			Or		
			Only BE/B. Tech in IT/CS/ECE/Electrical/Electronic or Regular MCA= 3 Mark. Or		
			Only Diploma Eng. /Graduate with min 8 years of relevant experience-2 Mark		
			Certification:		
			CCNP/ITIL 4/PMP/Prince 2/**Equivalent Project Management Certificate from Govt. institute**		
			= 2 Marks		
			Project Experience:		
			Managed Surveillance projects with the similar scope of work and Operation & Maintenance for at least 1 year.		
			Experience of each project 1 marks. Maximum 3 marks		
6	Understanding	Technical Proposal	Detail technical proposal including following.		Technical Proposal with cover letter, declaration and other proposed solutions on letter head of bidder and OEMs. **Hard copy of technical proposal also to be submitted by the bidder at BSEDC.**
			a. Itemized breakup of unpriced BOQ/BOM for each solution from OEMs (Should not be the RFP BOM). **1 Marks**		
			b. Indicative Camera coverage drawing, SLD,HLD and inside junction box connection plan. **2 Marks**		
			c. Proposed VMS and VA solution details. **2 Marks**		
			d. Server, VM, Storage sizing with detail breakup and justification. **1 Marks**		
			e. Public address system. **2 Marks**		

			f. Project execution plan**. 3 Marks**		
			g. Onsite direct OEM installation commissioning support plan and declaration from OEMs. **1 Marks**		
			h. Proposed resource for installation and commissioning. **2 Marks**		
			i. Proposed O&M Plan and **1Marks**		
			j. Qualitative assessment based on Demonstration of understanding of the Projects objectives and requirements through providing:		
			−Solution proposed and its components,		
			− Technologies proposed **2 Marks.**		
			−Scale of similar implementation,		
			− Understanding of Issues faced in similar projects		
			−Challenges likely to be encountered		
			− Mitigation proposed		
			−Support methodology		
			−Completeness and responsiveness: The extent to which the proposal responds exhaustively to all the requirements of all the Terms of Reference. **2 Marks**		
			k. Qualitative assessment based on − The extent to which the Systems Implementer's approach and work plan responds to the objectives indicated in the Statement/Scope of Work**. 1 Marks**		

26.19 Form 18 – Letter for Technical Proposal

To:

Managing Director,
Bihar State Electronics Development Corporation (BELTRON) BELTRON Bhawan
Shastri Nagar, Patna – 800023

<Location, Date>

Subject: Submission of the Technical bid for <Name of the Systems Implementation assignment>

Dear Sir,

We, the undersigned, offer to provide Systems Implementation solutions to BSEDC Ltd on <Name of the Systems Implementation engagement> with your Request for Proposal dated <insert date> and our Proposal. We are hereby submitting our Proposal, which includes this Technical bid and the Financial Bid separately as per the e-forms.

We hereby declare that all the information and statements made in this Technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our Proposal is accepted, to initiate the Implementation services related to the assignment not later than the date indicated in Data sheet.

We agree to abide by all the terms and conditions of the RFP document. We would hold the terms of our bid valid for 180 days as stipulated in the RFP document.

We hereby declare that we are not insolvent, in receivership, bankrupt or being wound up, our affairs are not being administered by a court or a judicial officer, our business activities have not been suspended and we are not the subject of legal proceedings for any of the foregoing.

We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorized Signature [*In full and initials*]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

Location: _____ ***Date:*** _____

26.20 Form 19-Additional Special OEM criteria Declaration Format

To Whom It May Concern

We M/s ….(Company Name with Head office Address and Quoted products Factory Name and Address) hereby declare that we have read the clause regarding restrictions on procurement from a bidder/OEM/Supplier of a country which shares a land border with India as per office memorandum dated 23.07.2020 Rule 144(xi) in General Financial Rule(GFRs), 2017 and all addendums and clarifications issued by Ministry of Finance, Department of Expenditure, Public Procurement Division, Government of India (F. No. 6/18/2019-PPD).

We certify that our quoted products … (Name and model number of items) in this tender/RFP .. (RFP Name, Number, Date) are not from such a country and fulfills all requirements in this regard and is eligible to be considered.

On Behalf of M/s.. (Company Name)

Name:

Designation:

Official Address:

Official Mail ID:

Official Contact No.-

Date:

27. Annexure 4- Indicative Camera Locations

27.1 Old Building & Outside Tentative Camera BoQ

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
1	Outside	Gate No-3 outside	Entry & Exit Gate	2 MP IR PTZ	1
2	Outside	Gate No-3 outside	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
3	Outside	Gate No-3 inside	Entry & Exit Gate	ANPR (5 MP Box)	1
4	Outside	Gate No-3 inside	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
5	Outside	Parking Stand (Right Side Gate No-3)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
6	Outside	Inside Parking (for Boundary)	Perimeter	5 MP Box Cam with IR	2
7	Outside	Inside Parking (Near Railway Counter)	Road & Parking inside High Court	2 MP IR PTZ	1
8	Outside	Gate No- 3 (Right Side Boundary)	Perimeter	5 MP Box Cam with IR	3

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
9	Outside	CO Residence gate	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
10	Outside	CO Residence gate	Entry & Exit Gate	ANPR (5 MP Box)	1
11	Outside	CO Residence gate (Right Side)	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	1
12	Outside	CO Residence (Back Side Corner)	Perimeter	5 MP Box Cam with IR	2
13	Outside	CO Residence (Left Side Boundary)	Perimeter	5 MP Box Cam with IR	2
14	Outside	Proposed Parking (Near CO residence)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	3
15	Outside	Proposed Parking (Near CO residence)	Road & Parking inside High Court	2 MP IR PTZ	1
16	Outside	Cooperative Boundary (Back Side)	Perimeter	5 MP Box Cam with IR	2
17	Outside	Cooperative entry gate	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
18	Outside	Inside Parking end left corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	3
19	Outside	Reservation Center Corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
20	Outside	RG Entrance (Back Side Portico)	Building Entrance	5 MP Motorized Varifocal IR Bullet	3
21	Outside	Digitization Hall gate	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
22	Outside	Digitization Hall gate	Building Entrance	5 MP Motorized Varifocal IR Dome	1
23	Outside	Hospital Corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
24	Outside	Behind water tower	Perimeter	5 MP Box Cam with IR	4
25	Outside	Parking entrance (Opp Hospital)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
26	Outside	RGB Filing Section (Front Side)	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
27	Outside	RGB Front Side (Portico)	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
28	Outside	Reservation Counter	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	1

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
29	Outside	Reservation Counter roof corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	1
30	Outside	e-stamp Counter (Near Gate No-3)	Road & Parking inside High Court	Bullet (FR) 5 MP Motorized Varifocal IR Bullet	1
31	Outside	CO Office Main road	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
32	Outside	CO Office Main road	Road & Parking inside High Court	2 MP IR PTZ	1
33	Outside	Way to Hospital Crossing	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
34	Outside	Way to Hospital Crossing	Road & Parking inside High Court	2 MP IR PTZ	1
35	Outside	Gate No- 4	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
36	Outside	Gate No -4	Entry & Exit Gate	ANPR (5 MP Box)	1
37	Outside	Gate No-4 (Path way)	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
38	Outside	Gate No-4 (Path way)	Entry & Exit Gate	5MP Bullet for FR	1
39	Outside	New Vakalatkhana Main gate	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
40	Outside	Gate No-4 (Right Side)	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	3
41	Outside	New Building Right side (End road of Gate No -5)	Road & Parking inside High Court	2 MP IR PTZ	1
42	Outside	Gate No- 5 New building back side boundary	Perimeter	5 MP Box Cam with IR	3
43	Outside	Gate No-5 Out side	Entry & Exit Gate	2 MP IR PTZ	1
44	Outside	Gate No- 5	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
45	Outside	Gate No- 5	Entry & Exit Gate	ANPR (5 MP Box)	1
46	Outside	Gate No- 5 (Right Side Corner)	Perimeter	2 MP IR PTZ	1
47	Outside	Gate No. 1 end road (on New and old building connector)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
48	Outside	Judges Lounge	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
49	Outside	Chief Justice building entrance	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
50	Outside	Marble hall judge main entrance	Building Entrance	Outdoor Multi-sensor Panoramic Camera	1
51	Outside	Marble hall judge main entrance	Building Entrance	5 MP Motorized Varifocal IR Bullet	4
52	Outside	RG entrance building corner (Gate No-1)	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
53	Outside	Judges Lounge (Near gate No- 1)	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
54	Outside	New Building (Near Mazar Boundary)	Perimeter	5 MP Box Cam with IR	5
55	Outside	New Building (Near Mazar Boundary)	Perimeter	5 MP Box Cam with IR	1
56	Outside	Gate No. -1	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
57	Outside	Gate No. -1	Entry & Exit Gate	ANPR (5 MP Box)	1
58	Outside	Gate No. -1 (Out Side)	Entry & Exit Gate	2 MP IR PTZ	1
59	Outside	PA entrance section	Building Entrance	5 MP Motorized Varifocal IR Dome	1
60	Outside	Entrance Eight room Judges Chamber	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
61	Outside	Gate No.-1 (Right Side visibility issue)	Perimeter	5 MP Box Cam with IR	1
62	Outside	Judges Parking road end	Perimeter	5 MP Motorized Varifocal IR Bullet	3
63	Outside	Building corner (Near Bike Parking)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
64	Outside	CMC Building (Parking Side)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	1
65	Outside	CMC Building (Gate)	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
66	Outside	CMC Building Back Side (For Boundary)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	3
67	Outside	Sub Station entry corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
68	Outside	11 K Volt gate opp building corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
69	Outside	Near 11 k substation for boundary	Perimeter	5 MP Box Cam with IR	2
70	Outside	Badhwa Chamber outside (Stage View)	Building Entrance	5 MP Motorized Varifocal IR Bullet	6
71	Outside	Marble Hall Gate front side	Building Entrance	5 MP Motorized Varifocal IR Bullet	3
72	Outside	Marble Hall Gate front side	Building Entrance	5 MP Bullet for FR	1
73	Outside	Marble Hall Front Gate (Right side)	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
74	Outside	Marble Hall Front Gate	Building Entrance	Outdoor Multi-sensor Panoramic Camera	1
75	Outside	Stationary Counter (Outside Parking)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	1
76	Outside	Pass Counter portico	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
77	Outside	Pass Counter portico	Building Entrance	5 MP Bullet for FR	1
78	Outside	Gate No- 2	Entry & Exit Gate	5 MP Motorized Varifocal IR Bullet	2
79	Outside	Gate No- 2	Entry & Exit Gate	ANPR (5 MP Box)	1
80	Outside	Gate No- 2 (Outside)	Entry & Exit Gate	2 MP IR PTZ	1
81	Outside	Lawzima Section gate	Road & Parking inside High Court	5 MP Bullet for FR	1
82	Outside	Shankar Canteen Corner	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
83	Outside	Shankar Canteen Corner	Road & Parking inside High Court	Outdoor Multi-sensor Panoramic Camera	1
84	Outside	Lift Gate (near Canteen)	Building Entrance	Multi-sensor Panoramic Dome Camera	1
85	Outside	Gate No- 3 left side (Bike Stand)	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	1
86	Outside	CO Office Gate	Building Entrance	5 MP Motorized Varifocal IR Bullet	2
87	Outside	IT Registrar Building gate and corner	Building Entrance	5 MP Motorized Varifocal IR Bullet	4

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
88	Outside	Near Pritam Law House	Road & Parking inside High Court	5 MP Motorized Varifocal IR Bullet	2
89	Outside	Judges Lounge Lift	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
90	Outside	Judges Lounge Portico (Near lift)	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
91	Outside	AG Building Entrance	Building Entrance	5 MP Motorized Varifocal IR Bullet	1
92	Inside	Office Main Building Ground Floor (Front Side)	Office Main Building	5 MP Motorized Varifocal IR Bullet	6
93	Inside	Registrar Establishment office Corridor	Office Main Building	5 MP Motorized Varifocal IR Bullet	3
94	Inside	Office Main Building connector & parking	Office Main Building	5 MP Motorized Varifocal IR Bullet	4
95	Inside	Office main building 1st floor stair (Front Side)	Office Main Building	5 MP Motorized Varifocal IR Bullet	5
96	Inside	Office main building 2nd floor stair (Front Side)	Office Main Building	5 MP Motorized Varifocal IR Bullet	4
97	Inside	Office Building Decree Department	Office Main Building	5 MP Motorized Varifocal IR Bullet	2
98	Inside	Joint Registrar main Entry (Ground floor)	Office Main Building	5 MP Motorized Varifocal IR Bullet	2
99	Inside	Joint Registrar main Entry (Stair)	Office Main Building	5 MP Motorized Varifocal IR Bullet	2
100	Inside	Joint Registrar main Entry (1st Floor)	Office Main Building	5 MP Motorized Varifocal IR Bullet	5
101	Inside	Joint Registrar main Entry (2nd Floor)	Office Main Building	5 MP Motorized Varifocal IR Bullet	2
102	Inside	Office main building Back side ground floor	Office Main Building	5 MP Motorized Varifocal IR Bullet	8
103	Inside	Registrar lift Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
104	Inside	Appointment Section Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
105	Inside	Chief Justice entry Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	7
106	Inside	Chief Justice Chamber Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	6
107	Inside	Near Joint Registrar office	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
108	Inside	Chief Justice Chamber left side Stair	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
109	Inside	Lift -2 Judges Corridor Ground floor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
110	Inside	Marble Hall	High Court Old Building	Multi-sensor Panoramic Dome Camera	1
111	Inside	Lift -3 Judges Corridor Ground floor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
112	Inside	Stair near Registrar General chamber	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
113	Inside	Registrar General (Front Entry)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
114	Inside	Registrar General (Right Side)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
115	Inside	Lift No- 4 Near Judges Gate	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
116	Inside	Near Registrar Appointment cell	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
117	Inside	Eight Room building near lift	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
118	Inside	Letter receiving section (Back Side)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
119	Inside	Court No 37-39 Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
120	Inside	Registrar entry front side corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
121	Inside	Court No 34-36 corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
122	Inside	Letter receiving counter (Justice Corridor)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	4
123	Inside	Dispute Resolution Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
124	Inside	Dispute Resolution Corridor (Near Lift)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
125	Inside	Court No- 31-32 Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
126	Inside	ASG Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
127	Inside	Secretary Gate way to Badhwa Chamber	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
128	Inside	Corridor to Marble Hall (Main Gate)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	4
129	Inside	Lift No 4 1st Floor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
130	Inside	Court No-1 Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
131	Inside	Court No-1 Corridor	High Court Old Building	5 MP Bullet for FR	1
132	Inside	Court No 22-23 corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
133	Inside	Court no-23 Back side Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
134	Inside	Eight court building parking side	High Court Old Building	5 MP Motorized Varifocal IR Bullet	4
135	Inside	Court no- 24-25 corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
136	Inside	Way to Bar Association stair	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
137	Inside	Court No 19-20 Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
138	Inside	Court No 19-20 Corridor entry gate	High Court Old Building	5 MP Motorized Varifocal IR Dome	2
139	Inside	PA section	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
140	Inside	PA section stair	High Court Old Building	5 MP Motorized Varifocal IR Bullet	4
141	Inside	Opp Court no- 18 (Advocate Entry)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
142	Inside	Court no- 5- 18 Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	8
143	Inside	Judges Library (1st Floor Marble Hall)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	5
144	Inside	Judges Library (1st Floor Marble Hall)	High Court Old Building	Multi-sensor Panoramic Dome Camera	1
145	Inside	Opp Court No. 6 (Advocate Entry)	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1
146	Inside	Session Court Corridor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	4
147	Inside	Session Court Corridor near Lift No-1	High Court Old Building	5 MP Motorized Varifocal IR Bullet	1

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
148	Inside	AG Corridor 1st floor	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
149	Inside	Purchase Cell	High Court Old Building	5 MP Motorized Varifocal IR Bullet	2
150	Inside	Opp Writ PPE Section gate	AG Building	5 MP Motorized Varifocal IR Bullet	2
151	Inside	Inside Writ PPE Section	AG Building	5 MP Motorized Varifocal IR Bullet	2
152	Inside	IT Registrar Building inside	IT Registrar building	5 MP Motorized Varifocal IR Bullet	3
153	Inside	1st Floor IT Registrar building	IT Registrar building	5 MP Motorized Varifocal IR Bullet	1
154	Inside	CO office ground floor	CO Building	5 MP Motorized Varifocal IR Bullet	4
155	Inside	CO office ground floor stair (Way to Advocate Association)	CO Building	5 MP Motorized Varifocal IR Bullet	1
156	Inside	Pass Counter (Back Side)	CO Building	5 MP Motorized Varifocal IR Bullet	1
157	Inside	Civil Revision (P) corridor	CO Building	5 MP Motorized Varifocal IR Bullet	2
158	Inside	Pass Counter(Front Side)	CO Building	5 MP Motorized Varifocal IR Bullet	2
159	Inside	Conference Cell gallery	CO Building	5 MP Motorized Varifocal IR Bullet	2
160	Inside	Stationary Counter	High Court Old Building	5 MP Motorized Varifocal IR Bullet	3
	Total Camera Count				**347**

27.2 New Building Tentative Camera BoQ

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
1	Inside	Inside High Court new building block-1 ground floor corridors, lifts and staircase entry/exists	Ground Floor	5 MP Motorized Varifocal IR Dome	40

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
2	Inside	Inside High Court new building block-1 ground floor corridors, lifts and staircase entry/exists	First Floor	5 MP Motorized Varifocal IR Dome	40
3	Inside	Inside High Court new building block-1 ground floor corridors, lifts and staircase entry/exists	Second Floor	5 MP Motorized Varifocal IR Dome	40
4	Inside	Inside High Court new building block -1 parking space and entry/ exit ramp	Inside Parking	5 MP Motorized Varifocal IR Bullet	15
5	Inside	Inside High Court new building block -1 roof entry/ exit	Second Floor	5 MP Motorized Varifocal IR Bullet	2
6	Inside	Inside High Court new building block-2 ground floor corridors, lifts and staircase entry/exists	Ground Floor	5 MP Motorized Varifocal IR Dome	40
7	Inside	Inside High Court new building block-2 ground floor corridors, lifts and staircase entry/exists	First Floor	5 MP Motorized Varifocal IR Dome	40
8	Inside	Inside High Court new building block-2 ground floor corridors, lifts and staircase entry/exists	Second Floor	5 MP Motorized Varifocal IR Dome	40
9	Inside	Inside High Court New building block-2 Parking Space and Entry/ exit ramp	Inside Parking	5 MP Motorized Varifocal IR Bullet	15
10	Inside	Inside High Court new building block-2 roof entry/ exit	Second Floor	5 MP Motorized Varifocal IR Bullet	2
11	Inside	High Court New building front side, lawn and garden area	New Building Front Side	5 MP Motorized Varifocal IR Bullet	20
12	Inside	High Court New building block-1 and 2 Connector/Common Area	Common area Inside	5 MP Motorized Varifocal IR Bullet	4

Sl. No.	Inside/ Outside Camera	Location	Location Category	Type of Camera	Qty.
13	Inside	High Court New building block-1 and 2 Connector/Common Area	Connector Bridge Block-1	5 MP Motorized Varifocal IR Bullet	3
14	Inside	High Court New building block-1 and 2 Connector/Common Area	Connector Bridge Block-2	5 MP Motorized Varifocal IR Bullet	3
15	Inside	Inside High Court New building block II right side open area near gate no 5	New Building Back Side	5 MP Motorized Varifocal IR Bullet	5
16	Inside	Ground Floor Open Lobby	Inside New Building	Multi-sensor Panoramic Dome Camera	1
	Total Camera Count				**310**
Project Total Project Camera Count- (347+310)=651					

28. E-Procurement related instructions.

The bidder shall submit his response through Bid submission to the tender on eProcurement portal at www.eproc2.bihar.gov.in by the procedure given below:

1. The bidder shall submit his bid/tender on e-Procurement 2.0 platform at www.eproc2.bihar.gov.in.
2. The bidder must have the Class II/III Digital Signature Certificate (DSC) and e-Tendering User-id of the e-Procurement website before participating in the e-tendering process. The bidder may use their DSC if they already have the DSC. They can also take DSC from any of the authorized agencies. For user-id they have to get registered themselves on e-procurement website www.eproc2.bihar.gov.in and submit their bids online on the same. Offline bids shall not be entertained by the Tender Inviting Authority for the tenders published in e-procurement 2.0 platform.
3. The bidders shall submit their eligibility and qualification details, Technical bid, BOQ etc., in the online standard forms given in e-Procurement 2.0 web site at the respective stage only as required for the respective tenders. The bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria / technical bids and other certificate/documents in the e-Procurement 2.0 web site as per the mentioned requirement of tender. The bidder shall digitally sign on the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity.
4. Tender Processing Fee (TPF) to be paid through e-Payment mode (i.e. NEFT / RTGS, Net Banking, Credit / Debit Card) only.
5. Cost of BOQ/ Form Fee to be paid through e-Payment mode (i.e. NEFT / RTGS, Net Banking, Credit / Debit Card) only.
6. Earnest Money Deposit (EMD) can be paid either through online mode or manual mode (BG). In case of manual mode of payment of EMD, the original hardcopy of the EMD i.e. BG that should be submitted in the tendering authority office within specific time. (As mentioned in the tender document)

   Note: "Bids along with necessary online payments must be submitted through eProcurement portal www.eproc2.bihar.gov.in before the date and time specified in the NIT/RFP. The department/ Tendering Authority doesn't take any responsibility for the delay /Non Submission of Tender / Non Reconciliation of online Payment caused due to No availability of Internet Connection, Network Traffic / Holidays or any other reason."
7. The tender opening will be done online only.
8. Any corrigendum or date extension notice will be given on the e-Procurement website only.
9. For support related to e-tendering process, bidders may contact at following contact details:
10. Toll Free No. 1800 572 6571, Email Id: - eproc2support@bihar.gov.in

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