

**Request for Proposal
for
Selection of System Integrator for Supply, Installation,
Commissioning and Maintenance of CCTV Based
Surveillance System in the Premise of
VIDHAN SABHA (Annexe BUILDING OLD & NEW),
PATNA, BIHAR**



NIT No: -7529/2022 Dated: -09/06/ 2022



Bihar State Electronics Development Corporation Limited
(A Government of Bihar Undertaking)
BELTRON BHAWAN
Patna – 800 023, BIHAR
Phone : 0612-221242 ; FAX : 0612-2281857
e-mail: alokpratapsuman@bihar.gov.in

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1. Important Information

Non-Refundable Tender Cost	Rs. 10,000.00 (Ten Thousand) through e-payment only else bid will be rejected.
e-Tendering Processing Fee	Rs. 3,000.00 (Excl. of Taxes) through e- Payment only else bid will be rejected.
Sale of RFP Document	From 10-06-2022 till 30-06-2022 05:00 PM
Pre-bid/Queries (if any) through email.	Latest by 16-06-2022, thereafter no queries shall be entertained.
Pre-bid Meeting	Dated 17-06-2022 04:00 PM onwards Venue BSEDC meeting room.
EMD/Bid Security	Rs., 11,00,000/- in the form of e-Payment / Bank Guarantee in favour of BSEDC Ltd. Patna from any scheduled bank. It may also be submitted through e-payment.
Performance Bank Guarantee (PBG)	Performance Guarantee will be submitted in the form of Bank Guarantee @ 10% of Project Cost/P.O. value by successful bidder.
Last date for submission of Bid (Only through e- Procurement)	30-06-2022 05:00 PM
Opening of General cum Technical Bid	01-07-2022 12:00 PM
Opening of Financial Bid	Communicated later...

2. Chapter 1. Information

2.1. Introduction

The Bihar Vidhan Sabha, Patna Bihar has desired to setup 24X7 operational CCTV based surveillance system in their new annexe building premises, which is capable to monitor centrally within the office area. This project has been designed and developed with five-year support and services to keep the close monitoring of the activities in the premises of the annexe building (old & new) of BIHAR VIDHAN SABHA, PATNA in order to extend building security. However, AMC for next five years will also be discovered during the tender process.

2.2. General Instructions

Bihar State Electronics Development Corporation (BSEDC) on behalf of “Vidhan Sabha, Patna, Bihar” intends to set up IP based CCTV surveillance system in their premises.

The invitation to the bid is for “Supply, Installation, Commissioning and maintenance of IP based CCTV Surveillance System in the premise of “Vidhan Sabha, Patna, Bihar” with onsite comprehensive warranty and support and support with 5 years AMC.

Submission of bids shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications. This section provides general information about the Issuer, important dates and addresses and the overall eligibility criteria for the bidders.

2.3. ISSUER

Bihar State Electronics Development Corporation Ltd. (herein after referred to as BSEDC) an undertaking of Department of Information Technology, Govt. of Bihar, invites proposals from leading agencies in the IT Industry for the aforesaid requirement.

2.4. CONTACT PERSON

Managing Director,

Bihar State Electronics Development Corporation Limited, BELTRON
Bhawan, Shastri Nagar,
Bailey Road, Patna 800 023, Bihar

2.5. PROCUREMENT OF RFP DOCUMENT

The RFP document can be downloaded from the website eproc2.bihar.gov.in. The cost of tender document is Rs. 10,000/- (Rupees Ten Thousand Only) which is non-refundable. This fee shall be paid only through e-payment else the bid will summarily be rejected.

2.6. INTRODUCTION AND OBJECTIVE

The Department of Labour, GoB has desired to setup 24X7 operational CCTV based surveillance system in their premises, which is capable to be monitored centrally or from multiple locations within the office area. This project has been designed and developed to keep the close monitoring of the activities in the premises of the Vidhan Sabha Annex BUILDING, PATNA in order to extend building security.

B.S.E.D.C. Ltd. also known as Beltron, is a State Nodal Agency for IT activities. It has conceptualized the requirement based on a site survey conducted in coordination with the Labour department officer's and the Beltron representative. Floor wise site survey diagram (i.e. Ground floor includes parking area and main gates up to 6th floors) is being attached herewith (Appendix) in these documents.

The project envisages for implementation of CCTV based Surveillance system for :

- ✓ Law & Order
 - ✓ Special events like public gathering etc.
 - ✓ Crime Control
 - ✓ Unauthorised Access Control, etc.
- a) System is scalable and provides enhanced functionality and services as when required in future (Scalability and Expandability).
 - b) Providing high – quality day night video images on real – time basis from distant security cameras.
 - c) Provisioning of storage for recording up to Fifteen (15) days in non editable format with Date & Time stamping.
 - d) Provision of multilevel continuous monitoring feature for uncompromised security
 - e) Two dedicated technical Manpower during office hour for system supports and day today services.

2.7. SCOPE OF WORK

A combination of IP based Dome /Bullet & PTZ Night Vision cameras along with Network Video Recorder(NVR) will be used for keeping track of the activities in the premises with limited days (90 days) of recording. Online UPS with limited power backup, Rodent free UTP cables , PoE network Switches, Commercial Display for longer operational etc. will be used for establishing surveillance system in the building. The responsibility of the selected agency will be at least but not limited to the below mentioned points :-

- a) Co-ordination with the client to arrive the exact location for camera installation, however site survey diagram for the same will be supplied to the agency.
- b) Assign of single point of contact as a project In-charge, who shall be in touch with the nodal officer till project execution. Two dedicated well trained technical support manpower shall be deployed by the agency from the date of the Go-Live under O&M phase.
- c) Keep and maintain proper attendance of deployed manpower, which shall be cross verified by the user department nodal officer. Any kind of leave or absence except national holidays or departmental approved holiday shall only be acceptable if, mutual acceptance of the department is being accorded.
- d) The agency shall also be sole responsible to follow Govt. norms on disbursement of wages to the deployed resources.
- e) Agency will be responsible for Supply and commissioned the requisite materials for successful implementation.
- f) Clean and Structured network cable laying as per industrial practice standard.
- g) Configuring and fine-tuning of the edge device i.e. camera and their associated equipments to achieve overall optimal performance.
- h) Five year onsite comprehensive service and support includes labour, parts, freight, and transportation etc., taxes, duties and levies on spare parts.
- i) Maintain the systems inventory details in proper manner.
- j) Scheduled Preventive Maintenance (PM) once in a Three Months. Agency would maintain the Job Card for the PM. The PM Job Card has to be signed by the designated nodal Officer of the user department.
- k) Unscheduled, on call corrective and remedial maintenance service to set right the malfunction of the system. This includes replacement of unserviceable parts. The parts replaced will either be as per approved part or equivalent in performance to new part prior with approval. Whether defective item/components are to be replaced or repaired shall be at the sole discretion of the agency.
- l) Responsible to provide the available recording as and when required by the administration with proper channel strictly.

2.8. FACILITATION TO AGENCY

- a) A properly finished & furnished Control room of adequate size will be provided in campus, by the administration i.e. "Vidhan Sabha, Patna, Bihar". The IT as well as UPS activities at control room will be done by the selected bidder only.
- b) The permission to work in the premises will be provided by the campus administration.
- c) The permission for mounting of cameras on any of the existing infrastructure will be provided by the administration.
- d) Right of way for Fibre / Cat 6 lying, duly approved by the Concerned Authority, will be provided by the administration.
- e) The physical security of the entire system, during project execution will be the responsibility of the administration.
- f) The physical security of the entire system after execution will also be the responsibility of the administration.
- g) A nodal officer for day-to-day co-ordination will be nominated by the administration.

3. CHAPTER 2: General Mandatory Terms and Conditions

3.1. ELIGIBILITY CRITERIA

The bidders must fulfil the following conditions with supporting documentary proof else their bid may stand

Bihar State Electronics Development Corp. Ltd. NIT No.: BSED/...../22 Dt:.....

rejected: -

#	Qualification Criteria	Document/Information to be provided	Compliance (Yes/No)
1	Bidder should be an individual organisation registered under Indian companies act -1956 or 2013. Any Partnership, Consortium, JV bidding is not allowed.	Certificate of Incorporation issued by Registrar of Companies, Memorandum of Understanding and Articles of Association	
2	Bidder should be a System Integrator and should be in IT/ITES/Surveillance business for at least 7 (Seven) years as of 31st March 2022	Copy of work order / PO	
3	Bidder must have valid PAN, GST and EPF registration	Copy of PAN Card, GST Certificate and EPF Registration	
4	Bidder's minimum average annual sales turnover must be Rs. 5 Crores for the last three (3) audited financial years (i.e., FY 2018-19, FY 2019-20 & FY 2020-21).	Copy of audited balance sheets / CA certificate.	
5	The Net Worth of the bidder must be positive for the last 3 financial years (i.e., FY 2018-19, FY 2019-20 & FY 2020-21)	Copy of audited balance sheets / CA certificate.	
6	Bidder should have successfully completed at least Rs. 3 Crores worth IP camera surveillance /LAN WAN for Government/PSU/ Nationalized Bank/Large Enterprise (i.e., Listed company) during the last five years (i.e., on or after 01/Jul/2017).	Copy of purchase order with proof of payment received or client satisfactory certificate mentioned the value of work.	
7	Bidder must have successfully completed the supply, install and commissioning of minimum 500 CCTV cameras in last 5 years for Government/PSU/ Nationalized Bank/Large Enterprise (i.e., Listed company)	Copy of purchase order with client satisfactory certificate/ proof of payment received.	
8	Bidder must be authorised by respective OEMs of CCTV and active components networking/storage.	Tender specific MAF (Manufacturer Authorisation Form) issued by OEM.	
9	The bidder should have ISO 9001, ISO 20000-1, ISO 27001 and CMMI level3 or above certification.	Copy of valid CMMI and ISO certifications	
10	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	Self-Declaration on bidder's letterhead to be submitted.	

3.2. ELIGIBILITY CRITERIA FOR CCTV's OEM

- OEM need to confirm that the equipment, like Cameras etc., shall not be installed with standards like - GB28181, GB/T28181-2011, GB/T 28181-2011, GBT 28181- 2011, GBT28181- 2011,

- GB/T28181-2016, etc., protocols/standards and there shall be no option in the camera web page/settings to activate or deactivate such protocols/standards any of their version(s) or any such protocol which allow certain organizations to bypass all security parameters and look into the devices directly.
2. The camera OEM Should be a genuine manufacturer and should be an official valid H.264/ H.265 HEVC Certificate and should be listed on both HEVC website at the time of submitting bid . They should be paying the licensed fee for using the genuine HVEC Compression legally. The same will be checked on following official website
<https://www.mpegla.com/programs/hevc/licensees/>
<https://accessadvance.com/hevc-advance-patent-pool-licensees/>
 3. All the network cameras supplied must be certified for: BIS, FCC, CE, NDAA and UL (Certificates to be enclosed)
 4. Any of the proposed item/equipment of this project including cameras, switches, server, storage etc. Should not contain any “HiSilicon / Fullhan Microelectronics / Ingenic / Sigmastar” 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.).
 5. The network cameras supplied must be compliant with 2002/95/RoHS.
 6. The cameras shall support minimum 4 no. simultaneous and individually configurable Streams @ H.264, H.265 with Maximum frame rate and Maximum Resolution and shall be user configurable or better as per tender specifications.
 7. All cameras must comply with ONVIF Profile S, G, T standard or better. Proposed camera OEM must be full/contributing time member of ONVIF and should not be blacklisted by ONVIF.
 8. All the cameras shall have 3 Years OEM warranty and the same shall be submitted on OEM Letter head.
 9. OEM of CCTV should have registered office and presence in India for at least 7 years. Proof of the same shall be attached with the Technical bid.
 10. OEM of IP Camera should have its authorized service center in India.
 11. Products from OEMs having its origin I place of incorporation as China I People's Republic of China I PRC/ ROC/ Rest of China are not allowed to participate. Bidders are not allowed to propose any products/ equipment/ items/solutions from any such OEMs; the same shall be liable for rejection of bid)
 12. The OEM for all equipment should provide MAC ids of the quoted products; the MAC address of the proposed equipment must be registered in the name of the OEM only. The Intellectual Property Rights (IPR) of equipment (CCTV camera and VMS) Must Not Reside in China. The Equipment supplied should not be manufactured by an entity in which the majority shareholding of the entity is from China.
 13. OEM should not be blacklisted or barred by any Ministry of Government of India or globally or any of the Government / PSUs or any other government department at the time of bidding.
 14. CCTV OEM should have valid ISO 9001,14001 & 27001 Certifications (Submit supporting documents)
 15. All proposed CCTV Camera must be from single/same OEM.

3.3. TENDERING PROCESS

SUBMISSION OF TENDER (TWO-BID SYSTEM)

- a) BSEDC invites proposals from interested bidders through e-procurement process for “**Setting up Surveillance System at “Vidhan Shabha (Annex Building Old & New), Patna Bihar”**”
- b) Bidders need to submit the General, Pre-qualification and Technical details as part of General cum technical bid and Commercial bid through eproc2.bihar.gov.in

- c) Bidder needs to submit (online) separate General cum Technical bid and commercial bid for this tender.
- d) The bidders shall submit their eligibility and qualification details, commercial bid etc., in the online standard formats displayed in e-Procurement web site. 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 web site. The bidder shall sign on the statements, documents, certificates, uploaded by him, owning responsibility for their correctness /authenticity.

3.4. E-PROCUREMENT PROCESS RELATED INSTRUCTIONS

Submission of Proposals (Through electronic mode only)

1. For all tenders published through e-Proc2.0 website eproc2.bihar.gov.in, the bidder shall submit the bid/tender online on e-Procurement 2.0 platform at eproc2.bihar.gov.in. Physical bid submission is not allowed and shall not be entertained for any reason.
2. Prerequisites for submission of online bid on eproc2.bihar.gov.in for a bidder are:
 - a. The bidder must have a Class II/III Digital Signature Certificate (DSC) with Signing & Encryption certificate.
 - b. A valid account registration (User-id & password) of the above website for participating in tenders published through it.
 - c. Bidder needs to pay portal registration/ renewal fee through online modes listed/ provided through the e-Procurement 2.0 platform.
 - d. Users need to map the DSC to their respective account to enable submission of bids on the platform.
 - e. Existing DSC can be used if they've validity and complies with point 'a' above.
 - f. Bidders can purchase DSC from any of the Controller of Certifying Authority (CCA) authorized agencies.
3. As per Government order 752 dated 21/08/2020, cost for new registration is Rs. 1,000.00 and renewal is Rs.500.00. The registration validity is for one year.
4. The bidders shall submit their eligibility and qualification details, Technical bid, Financial bid etc., in the online standard formats given in e-Procurement 2.0 web site at the respective stage only. 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. The bidder shall digitally sign on the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity. The bidder shall attach all the required documents for the specific tender by uploading the same during the bid submission process as per the tender notice/ bid document.
5. All the required documents should be attached at the respective places as mentioned in the tender document/ e-forms else the tender of the bidder is liable to be rejected.
6. Tender Processing Fee (TPF) shall be paid through online modes listed/ provided through the e-Procurement 2.0 platform.
7. Cost of BOQ/ Form Fee shall be paid through online modes listed/ provided in the e-Procurement 2.0 platform.
8. All NEFT/ RTGS payments are to be made as per the instructions printed on the NEFT/ RTGS challan.
9. Earnest Money Deposit (EMD) can be paid either through online mode or by way of Bank Guarantee (BG). In case payment of EMD is done through BG, the scanned copy of EMD (BG) should be uploaded at relevant section as detailed out in the tender document and the original hardcopy of the EMD i.e. BG should be submitted as per instructions specified in the tender document.

Note: Bids along with necessary payments must be submitted as per instructions provided and before the date and time specified in the NIT/Tender document/ RFP/ EOI published on eproc2.bihar.gov.in.

The e-Procurement portal/ Department/Tendering Authority doesn't take any responsibility for the delay / Non-Submission of Tender / Non-Reconciliation of online Payment caused due to Non-availability of Internet Connection/ Network Traffic / Holidays or any other reason.

10. The tender opening and evaluation will be done through online mode only.
11. Any corrigendum or date extension notice will be published on the above e-Procurement website only and it is the responsibility of the bidder to regularly check the status on the e-Proc2.0 website.
12. For any support related to e-Procurement process, bidders may contact at following tollfree no. or address:

Toll Free No. 1800 572 6571,

Email Id: - eproc2support@bihar.gov.in

mjunction services limited,
RJ Complex, 2nd Floor, Canara Bank
Campus, Khajpura, Ashiana Road,
P.S. - Shastri Nagar, Patna 800 014, Bihar.

3.5. GENERAL CUM TECHNICAL BID

General cum technical bid should contain the following:

- a) RFP cost of Rs 10,000/- to be deposited through e-payment only otherwise the bid will directly be rejected.
- b) e-tender processing charges of Rs 3,000/- (Excl. of taxes) to be paid through e-payment only.
- c) EMD of Rs 11,00,000 to be deposited in the form of e-payment / Bank Guarantee from any Scheduled bank.
- d) Duly filled in Annexure – A (Profile of the company) with relevant details and enclosures.
- e) Digitally signed Tender proposal along with credentials and supporting documents.
- f) Authorization letters from authorized signatory of Original Equipment Manufacturers (OEMs).
- g) Technical solution document detailing about the solution offered.
- h) Company Registration certificate
- i) Order copies with work completion proving document.
- j) ESIC & EPFO Registration Number
- k) Last Three years IT returns
- l) Last Three years Audited Financial document.
- m) Technical Datasheet of the quoted products with OEMs certification.
- n) Compliance Certificate for the Technical Specification of Items from OEMs.
- o) Power of attorney to the authorized person granting the person signing the proposal the right to bind the bidder as the Constituted attorney of the Directorate.

4. Commercial Bid

The Commercial Bid in the prescribed e-form should be filled up & uploaded on the website eproc2.bihar.gov.in.

The tenders not submitted as specified above will summarily be rejected.

4.1. EARNEST MONEY DEPOSIT (EMD)

Earnest Money Deposit of Rs.11,00,000/- by e-payment / Bank Guarantee from any Scheduled Bank drawn in favour of “**The Managing Director, BSEDC Ltd., Payable at Patna**” with 180 days validity from the

date of bid submission should be enclosed with the technical bid. The EMD will be returned back to the unsuccessful bidder. The EMD is not liable to earn any interest.

4.2. DETAILS TO BE FURNISHED AND MODE OF PRESENTATION

- a) The bid document should contain particulars like name and addresses of the bidder, cost including all taxes and other levies applicable for delivery.
- b) The tender quote should be valid for a period of 180 days from the date of opening of the Commercial Bid of the Tender.
- c) The quote for each item with makes, model and specifications should be indicated in Commercial bid.
- d) Technical specifications and Brochures (Data Sheet) for each item quoted should be enclosed in the Technical Bid.
- e) Submission of any additional documents will not be entertained after tender opening unless required by the purchaser. The website will not accept any document after closure of submission schedule.

4.3. OPENING OF TENDER

The tenders received on the date and time specified in the tender document will be opened by the Committee members of BSEDC Ltd. On the website eproc2.bihar.gov.in can be seen by the authorized bidders who hold the digital signature on behalf of their companies.

The Technical bids of bidders, which are correct and qualified in all respects, will be evaluated and those who qualify on the basis of technical bid will be informed through the decision on the website the, date and time of opening of their commercial bids. The Commercial bids of the technically qualified bidders will be opened. The decision of the Managing Director, BSEDC Ltd shall be final in this regard.

4.4. FORFEITURE OF EARNEST MONEY DEPOSIT

If the successful bidder fails to act according to tender conditions in any aspect or backs out after the tender was accepted, the EMD will be forfeited by BSEDC limited.

4.5. REJECTION CRITERIA

- a) Tender should be submitted in line with the official tender document sold by BSEDC limited. Tender document sold to one person / firm cannot be used by any other person / firm.
- b) Tenders submitted without furnishing any of the required details specified in **Section 3.5, 4.2 and 7.3** will summarily be rejected.
- c) Tenders should be submitted with digitally signed document and seal of the bidder in the tender document and also in the Technical and Commercial e-forms in separate schedules. The Tenders received without being duly certified by the bidder for fully accepting the terms and conditions of the tender and for abiding by the rules laid down, will summarily be rejected.
- d) The tenders submitted without EMD and tender document fee will summarily be rejected. No exemption from submission of EMD is allowed.
- e) Tenders submitted without the specification for each item quoted or compliance statement in the technical bid will summarily be rejected.
- f) Tenders with incomplete information, subjective and conditional offers/bidder's own terms & conditions including partial offers will be liable for rejection.
- g) Tenders submitted without audited financial statements for the previous 3 years along with IT returns copy, will summarily be rejected.
- h) The Tenders submitted with incomplete details against the required specifications in Technical bid will summarily be rejected.
- i) In addition to the above rejection criteria, non-compliance in any aspect of this tender document will make the tender liable for rejection.

- j) Against each line item of the BoQ, only one make product is allowed to be quoted. The bid of bidder quoting optional make for any line item will summarily be rejected.

4.6. SPECIAL TERMS

BSEDC reserves the right to negotiate for further reduction of price and to ensure make/quality/specification of materials to be supplied. BSEDC reserves the right to increase or decrease the quantity requirements to the extent Govt. feels the exigency of the new project of any quantity in terms of products & services. BSEDC reserves the right to scrap the tender at any point of time without giving any clarification. BSEDC reserves the right of final decision for the bid evaluation.

4.7. ACCEPTANCE OF TENDER AND WITHDRAWALS

- a) The final acceptance of tender is entirely vested with Managing Director, BSEDC limited, GoB, who reserves the right to accept or reject the tenders without assigning any reason. There is no obligation on the part the Department to communicate with the rejected bidders. After acceptance of the Tender terms, the bidder shall have no right to withdraw his Tender or claim higher price.
- b) The tender accepting authority may also reject the tenders for reasons such as changes in the scope of procurement with advanced technology equipment, lack of anticipated financial resources, court orders, accidents or calamities and other unforeseen circumstances.

4.8. CONTRACT AGREEMENT

- a) The successful bidder will be informed by a provisional order to execute an agreement on a stamp paper to fulfil the contract as enclosed in the format within 15 days from the date of issue of LoI. The non-execution of contract agreement within the prescribed period will entail cancellation of the order and EMD will be forfeited by considering the bidder as not responded.
- b) Expenses incidental to the execution of the agreement shall be borne by the Bidder.
- c) The conditions stipulated in the contract agreement form should be strictly adhered to and any violation of the conditions will entail termination of the contract without prejudice to the rights of PURCHASER and to recover any consequential loss from the successful Bidder.

5. SLA And Penalty

Description	Availability	Penalty
Availability# of CCTV Camera during a quarter	>= 99 %	Nil
	Between 99% to 97%	5% of the QGR bill amount
	Between 97% to 95%	10% of the QGR bill amount
	<95%	No payment

#Availability means availability of recording in Server.

Deployment of Resource Persons Metrics:

Deployment of Resources	Penalties for the absentee	
Manpower Availability	>= 99%	No Penalty
	Between 97% to 99%	1.0% of QGR value of O&M
	Between 97 % to 95%	5.0% of QGR value of O&M
	Less than 95%	10% of QGR value of O&M

Timely delivery of the Scope of Work

Timely delivery of the Scope of Work Definition	Timely delivery of deliverables
Service Level Requirement	All the deliverables defined in the contract has to 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 timelines mentioned in the section “Project 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 penalty of 1% of the contract value per week for a maximum of 10% of the total contract value. If the penalty reaches 10% of the total contract value in two consecutive quarter , CTD may invoke termination clause. (Penalty will be computed on value of contract.)

5.1. DELAY IN DELIVERY OR INSTALLATION

On unjustifiable grounds, a penalty of 1.5% of total order value per week shall be levied up to maximum of 3 weeks, thereafter for said delay the contract may be terminated.

5.2. PAYMENT TERMS

#	Milestone	Supporting
1.	On delivery of material - 50% of the Contract value	<ul style="list-style-type: none"> Details of the items like serial no. /part code no etc. Delivery proof duly signed by Customer
2.	On completion of installation, Commissioning, testing of the complete system, trial run for 1 week and manpower deployment - 30% of the Contract value.	<ul style="list-style-type: none"> AT Certificate issued by customer/BSEDC
3.	20% of the Contract value in equal 20 QGR from the date of FAT.	<ul style="list-style-type: none"> SLA reports and Manpower Attendance, Job Card of the PM duly signed by end client.

5.3. IMPLEMENTATION TIMELINE

Date of issue of LoI	T=15 days from Date of issuance of LOI to SI
Signing of Contract Agreement	T+ 2 WEEKS
Supply of ordered items (T2)	T+ 6 WEEKS
Installation and commissioning of equipment (T3)	T2 + 3 WEEKS
Acceptance of the system including Trial run for 1 week (T3)	T3 + 2 WEEKS

6. TECHNICAL SPECIFICATION

6.1. Camera Specification

#	Items	Make & Model	Descriptions	Compliance (Yes / NO)
1	IR- based 5 Mega Pixel IP		1/2.8" cmos sensor 3.2~10mm (3.1x) motorized varifocal lens, Max. 30fps@5MP resolutions, Max.	

#	Items	Make & Model	Descriptions	Compliance (Yes / NO)
	Bullet / Dome Camera		60fps@2M resolutions, IP66, IK10, NDAA, UL, BIS	
2	2 MP IP IR PTZ camera		1/2.8" cmos sensor, Visibility with PAN ZOOM (30x) optical zoom, Auto focus, 64x digital zoom (4x on IE plug-in, 16x built in) f = 4.94 ~ 148.24 mm ,200MTR IR, WDR IP 66/IP67, IK10, NDAA, UL, BIS	
3	8 MP Panoramic IP Cameras (360 Deg.)		1/2.5" 8MP single lens, 360° panoramic image, IP42, NDAA, UL, BIS	
4	5 MP IP ANPR camera		1/2.8" CMOS, motorized varifocal, Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, Best Shot per object, IP 66/IP67, IK10, NDAA, UL, BIS	
5	PTZ Joystick		LCD, 3 Axis joysticks to control PTZ function, Detachable joystick for universe use, Control: Pan / Tilt / Zoom, Focus, Auto focus, Pre-set, Group, Tour, Swing, Trace, Auto tracking, Alarm off/on, Freeze	

6.2. Storage

Make & Model				
Sl. No.	Parameter	Minimum Specification	Compliance (Yes/ No)	Datasheet Page Reference
1	Storage Controller	The Storage Solution should be based on hardware-based storage controller. controller with Data Assurance/equivalent solution should be offered by bidder using VMS or third-party appliance or software, where data while in motion between recording server and storage should have protection mechanism to avoid data corruption by detecting and correcting data integrity issues received on the I/O path from the recording server or due to hardware failures on the drives so as to offer End-to-End Data integrity Protection. Storage system should be able to upgrade to Dual Redundant hardware storage controller without adding new storage. Storage OS should not be general purpose OS like Windows, Linux etc.		
2	Cache required & Drive Support	The system should have minimum 8 GB DRAM cache memory (SSD based cache will not be considered as DRAM cache) across the controllers with an ability to protect data on cache if there is a controller failure or power outage. The cache on the storage should have 72hrs or more battery backup (OR) should have destaging capability to either flash/disk. The system should also offer extended cache based		

Make & Model				
Sl. No.	Parameter	Minimum Specification	Compliance (Yes/ No)	Datasheet Page Reference
		on SSD. The system must support intermixing of SSD, SAS and NL- SAS drives to meet the capacity and performance requirements of the applications. Backend path should be based on 12G SAS connectivity.		
3	Protocols & RAID configuration	The storage should be configured with FCP/ iSCSI protocols. Any hardware/software required for this functionality shall be supplied along with it. Should support various RAID levels 6 and above.		
4	Storage Capacity	100 TB Storage usable capacity should be provisioned with 4TB or higher capacity drives in RAID 6 Config.		
5	Drive Support & Front-End and Backend connectivity	The system must support intermixing of SSD, SAS and NL-SAS drives to meet the capacity and performance requirements of the applications. The system must support a minimum of a 84 disks per controllers for scalability purpose and must use every drive, up the supported count of drives per pool, spreading out all volumes across all drives and also decrease the drive rebuild time. In dual controller configuration for future scalability the storage system should support minimum of 172 Drives. The proposed storage system should have minimum 2 numbers of 12 Gbs or higher backend SAS ports. scalable to 4 ports with dual controller. The system should have the capability to support 4 Ports of 10G/16G FCP & iSCSI. The storage system should be configured with 2 ports 10G for iSCSI Connectivity.		
6	Rack Mountable	The storage should be supplied with rack mount kit if required. All the necessary patch cords (Ethernet and Fiber) shall be provided and installed		
7	Storage functionality and Availability	The storage shall have the ability to expand LUNS/Volumes on the storage online and instantly. The system should support instant creation of clones of active data.		
		The storage shall have the ability to create logical volumes without physical capacity being available or in other words system should allow over-provisioning of the capacity. The license required for the same shall be supplied along with storage model.		
		System should have redundant hot swappable components like, disks, power supplies, fans etc.		
		System should support asynchronous and synchronous replication. System should be configured with Asynchronous replication license."		

Make & Model				
Sl. No.	Parameter	Minimum Specification	Compliance (Yes/ No)	Datasheet Page Reference
		System Management software should have capability to monitor performance for IOPs, MB/s, latency and should be able to drill down to the capabilities of monitoring controllers, disk pools, volumes, drives.		
		System GUI manager should be able to manage multiple arrays together Should support Role-based access control and audit log, support for Multi-factor Authentication.		
		The proposed storage system should be configured to provide data protection against two simultaneous drive failures.		
		The required number hard disks for parity & spares, should be provided exclusively of the usable capacity mentioned after consider RAID and Filesystem overhead. At least 2% of the usable capacity requested on each tier should be configured as spare drives with the subsequent disk types		
		Storage system should support RAID level distributing data across multiple Disk to ensure faster rebuild time.		
		Proposed storage system should be scalable to dual controller as may be required in the future with capability to support up to six nine's availability.		
		The Storage System should support T10-PI standard/equivalent solution should be offered by bidder using VMS or third-party appliance or software, where data while in motion between recording server and storage should have protection mechanism to avoid data corruption by detecting and correcting data integrity issues received on the I/O path from the recording server or due to hardware failures on the drives so as to offer End-to-End Data integrity Protection.		
		Storage system should support SSD cache. Storage system should allow changing of cache block size non disruptively/ without affecting the video live video recording or playback for defined RAID group level to meet various kind of workload.		
		Storage should have Energy star rated Platinum power supplies/ equivalent or higher standards.		
		The proposed solution with storage sub system should support 99% reliability.		
8	Point-in-times images, Managements	The storage should have the requisite licenses to create point-in-time snapshots. The storage should support minimum 256 snapshots per system. The license proposed should be for the complete supported capacity of the system.		

Make & Model				
Sl. No.	Parameter	Minimum Specification	Compliance (Yes/ No)	Datasheet Page Reference
		Easy to use GUI based administration interface for configuration, storage management and performance analysis tools. The proposed storage should provide Proactive monitoring of the health of the system and configurable automated delivery of replacement drives when failures occur.		
9	OS support	Support for industry- leading Operating System platforms including LINUX, Microsoft Windows, etc. It shall support connecting hosts over iSCSI or FC		

6.3. 55” Display

Make & Model			
#	Parameter	Minimum Specifications	Complied (Yes/No)
1.	Technology	LED Backlight	
2.	Screen Size	Min. 55”	
3.	Resolution	4K	
4.	Input	The display should have 2 HDMI/DP/mini-DP/DVI input ports	
5.	Operations	24x7 Operational (Suitable Test certificate from OEM factory to be provided with technical bid for establishment of proof)	
6.	Aspect Ratio	16:9	
7	Viewing angle	175 Deg.	
7.	USB	At least two	
8.	Certification	Safety: UL/ cUL / CB / TUV, EMC, FCC, CE and BIS	

6.4. Fibre outdoor armoured SM cable, OS2

Make & Model				
#	Specifications	Requirement	Complied (Yes/No)	Cross Reference
1	Cable Type	6 fibre Single Mode, Armoured, Loose-tube, Gel filled cable complying to ISO/IEC 11801, EN50173, ANSI/TIA 568-C.3; suitable for use in direct burial, outdoor ducts and backbone cabling		
2	Fibre Type	Single Mode, 9/125micron primary coated buffers, OS2 (IEC 60793-2-50, B1.3 and ITU T G652.d)		
3	Armour	Corrugated Steel Tape Armour of min. 0.15 mm thickness		

Make & Model				
#	Specifications	Requirement	Complied (Yes/No)	Cross Reference
4	Cable Construction Type	Telcordia GR 20 / IEC 794-1		
5	Attenuation	@ 1310nm <=0.34 db/Km MAX		
		@1550nm <=0.22 db/Km MAX		
		@ 1380-1386nm <= 0.31db/Km		
6	Loose tube material	Single PBTP Loose tube filled with water blocking Thixotropic gel		
7	Jacket material	HDPE outer jacket minimum 2mm thickness or better		
8	Strength members	Water Swellable Glass yarn strength members		
9	Tensile Strength	1200 N or better		
10	Crush Resistance	2800 N or better		
11	Cable Diameter	10.0 + - 0.5 mm		
12	Operating Temperature	-40 Degree C to +70 Degree C		
13	Test Reports	OEM factory test reports must be provided against each drum / roll of fibre cable.		

6.5. Fibre LIU Rack-mountable, 1U fully loaded, SM 6/12 Port

Make & Model				
Sr No.	Specifications	Requirement	Complied (Yes/No)	Cross Reference
1	Fibre Management shelf	Shall be fully loaded and factory fitted assembly with no assembling required during installation at site.		
		<ul style="list-style-type: none"> • High Density: 1U: 6/12/24 Fibre terminations • Should be factory assembled with SC/LC SM duplex adapters, OS2 Pigtailed, splice trays, and fibre management rings • Min 4 cable entry points at rear of shelf 		
2	Drawer style shelf	o Sliding shelf for easy access to splicing tray and connectors		
		o Should have front locking latches on both side of shelf		
3	Accessories	Fibre management guides, secure tie downs and all splicing accessories		
		Pre-loaded with labelling strips, 2 grounding lugs		
		Sealed cable inlets for dust and rodent protection		
4	Material	Min 1.6mm CRCA Sheet steel with powder coating		
5	Fibre / buffer tube storage	Min of 320 mm depth		

Make & Model				
Sr No.	Specifications	Requirement	Complied (Yes/No)	Cross Reference
6	Pigtails loaded in Shelf:	SC/LC Type, SM OS2 1 Mtr.		

6.6. Fibre Optic Patch Cord SM

Make & Model				
#	Specifications	Requirement	Complied (Yes/No)	Cross Reference
1	Make and Type	SC/LC to LC/SC Duplex tuned Fibre Optic Patch Cord, 9/125 Micron		
2	Standard	ITU-T G.652.D and ITU-T G.657.A1 Bend Insensitive Single mode OS2 Fibre		
3	Cable Sheath	LSZH		
4	Cable Diameter	1.6 mm duplex cord		
5	Flame test compliance	IEC 60332-3, IEC 61034-2 and IEC 60754-2		
6	Insertion Loss	MAX .25 dB		
7	Return Loss	> 50 dB		
8	Temperature Range	-10 Degree C to +60 Degree C		

6.7. Cat6 U/UTP Rodent Resistant Cable Specification

Make & Model				
#	Parameter	Specification	Complied (Yes/No)	Cross Reference
1	Type	Cat6 U/UTP 4 pair Outdoor Cable, solid bare copper with cross filler pair separator Compliant to transmission standards ANSI/TIA 568.2-D, ISO/IEC 11801 Class E		
2	Application	Horizontal Cabling Category 6 shall be 23 AWG, 4 Pair UTP, Outdoor double jacketed Rodent Resistant and UV Stablised		
3	Jacketing	Inner Jacket - Polyethylene (PE) Outer jacket – LSZH as per IEC 60332-1		
4	Max pull force	<14 Kg		
5	Frequency	Tested upto 250 MHZ		
6	Outer Diameter	Not more than 7.2 mm		
7	Packaging	305 Mtr Reel		
8	Conductor Resistance	<=9.38 Ohms / 100 Mtr		
9	Application support	Shall comply to the requirements of IEEE 802.3bt (Type 4) for the safe delivery of power over LAN cable		
10	Temperature Range	Upto +70 Deg C		
11	Compliance	Must be ROHS/ELV compliant		

6.8. CAT6 UTP JACK PANELS 24 PORT

Make & Model				
#	Details	Specification	Complied (Yes/No)	Cross Reference
1	Type	24-port, Modular, 1U, PCB based, Unshielded Twisted Pair, Category 6, ANSI/TIA 568-C.2 and ISO/IEC 11801		
2	Port arrangement	Configured as 6 Port Module with individually replaceable CAT-6 Jacks		
3	Port Identification	9mm or 12mm Labels on each of 24-ports (to be included in supply)		
4	Modular Jack	750 mating cycles		
5	Wire terminal	200 termination cycles		
6	Accessories	Integrated bend-limiting strain-relief unit for cable entry on each port.		
7	Cable support	Shall be supplied with removable rear cable support, with 4 cable bundle managers.		
8	Materials			
	Housing	Polyphenylene oxide, 94V-0 rated		
	Wiring blocks	Polycarbonate, 94V-0 rated		
	Jack contacts	Beryllium copper, plated with 1.27 mm [.000050] thick gold		
	Panel	Black, powder coated steel		
9	Approvals	UL and cUL listed.		
10	Termination Pattern	T568 A and B;		
11	ROHS Compliant	ROHS 2011/EU Compliant		

6.9. CAT6 UTP PATCH CORDS 1 Mtr/5 mtr

Make & Model				
#	Details	Specification	Complied (Yes/No)	Cross Reference
1	Type	Unshielded Twisted Pair, Category 6, ANSI/TIA 568-C.2 & ISO/IEC 11801		
2	Conductor	24 AWG 7 / 32, stranded copper conductors 100 Ohm		
3	Length	Shall be available in multiple length and jacket colour.		
4	Plug Protection	Factory fitted strain relief boots on either side		
5	Jacket	LSZH as per IEC 60332-1		
6	Wiring	Shall be available in universal B-wiring		
7	Performance	In Compliance with IEC 60603-7		
8	Compliance	ROHS compliance		

6.10. Server

Make & Model			
SL No	Component	Specification	Compliance (Yes/No)
1	Processor	intel Xeon 8 Core; 18 MB Cache, 2.1 Ghz	
2	Form Factor	1U / 2U rack mounted with sliding rails	
3	Type Of RAM	DDR4 RDIMM	
4	Memory slots	16 DDR4 DIMM slots, speed up to 2933MT/s	
5	Memory configured	64GB DDR4 RDIMM, scalable to 1TB	
6	Disks supported	Up to 8 slots supporting 2.5" SAS/SATA HDD	
7	RAID Controller	12Gbps PCIe 3.0 with RAID 0, 1, & 5 with 8GB Cache	
8	Total storage capacity offered	2 x 600GB SAS Hard disk ,3 x 2TB 7.2K SATA / NL_SAS HDD	
9	Expansion slots	2	
10	Ethernet ports	4 x 1G RJ45	
11	Management	The Server Should Support Silicon root of Trust Inbuilt Security	
12	Network Interface Card	1	
12	Certifications: Compliance (OS)	Windows Server 2016, VMWare, Red Hat Enterprise Linux, SUSE Linux Enterprise Server	
13	Power Supply	Redundant Power Supply :800W or above	
		Power Supply Efficiency: Gold	
14	Management integration	Support for integration with Microsoft System Center, VMware vCenter	
15	Power & temperature	Real-time power meter, graphing, thresholds, alerts & capping with historical power counters. Temperature monitoring & graphing	
16	Warranty	5 Years 24 x 7 Support, Warranty should reflect in OEM site	

6.11. Video Management Server (VMS)

Video Management System (VMS) shall bring together physical security infrastructure and operations and shall use the IP network as the platform for managing the entire surveillance system. The Operators/users shall have rapid access to relevant information for analysis.

This shall allow operations managers and system integrator to build customized video surveillance networks that meet their exact requirements. Software suite shall be a scalable and flexible video management system that could be easily managed and monitored. Scalable system shall permit viewing of video feed from anywhere, anytime on a variety of clients via a web browser interface.

Video management server, on which the VMS is hosted upon, shall run seamlessly in the background to manage connections, access and storage. Video management server shall accept the feed from IP Camera installed at field locations. Server shall stream incoming video to a connected storage. VMS shall support video IP fixed color, PTZ / Dome cameras and any other camera that provides a composite PAL video signal.

VMS shall facilitate situational awareness of the on-ground condition at Command Control Centre or any other view centre. This shall be achieved by transmission of real time imagery (alarm based or on-demand). This imagery can be viewed live by operators and/or recorded for retrieval and investigation at a later time.

Department requires an integrated security solution that includes; a Windows based Video Management Software (VMS) system, standard and high definition IP-based cameras, and system should meet the following requirements.

The video surveillance system is intended to effectively monitor all the critical operational areas of the locations & fully cover all the access points.

The video surveillance system is required to ensure effective security & surveillance of an area as well as create a tamper proof record for post event analysis. The surveillance system shall provide an on-line display of video images on monitors at local security control room & also at any other place as defined for large locations as per requirement.

It should facilitate viewing of live and recorded images and controlling of all cameras by authorized users. All cameras should support for motion and temper detection. VMS shall include, as a minimum, the following features/ functions/ specifications:

Major functionalities are described here:

#	Minimum Specifications	Compliance (Yes/No)	Remarks
1	Make		
2	Model		
3	Key Features		
4	Video management system shall constitute of a platform which shall be designed for viewing, recording and replaying acquired video as part of overall project solution. This platform shall be based on the Internet Protocol (IP) open platform concept. Major functionalities are described here:		
5	VMS shall be used for centralized management of all field camera devices, video servers and client users.		
6.	VMS server shall be deployed in a clustered server environment or support inbuilt mechanism for high availability and failover.		
7.	VMS shall support a flexible rule- based system driven by schedules and events.		
8.	VMS shall be supported for fully distributed solution for monitoring and control function, designed for limitless multi-site and multiple server installations requiring 24/7 surveillance with support for devices from different vendors.		
	VMS shall support ONVIF compliant internet protocol (IP) cameras.		
9.	The bidder shall clearly list in their proposal the make and models that can be integrated with the VMS, additionally all the offered VMS and cameras must have Open Network Video Interface Forum (ONVIF) compliance.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
	<p>The Offered VMS Software should be ONVIF S, G, T & M Profile Compliant. The Declaration of ONVIF S, G, T & M Profile shall be available on ONVIF Official Website www.onvif.org in the Conformant Devices</p> <p>VMS OEM to Submit a Valid Certificate to Substantiate the Proof</p>		
10.	VMS shall be enabled for any standard storage technologies and video wall system integration.		
11.	<p>VMS shall be enabled for integration with any external Video Analytics Systems both server & edge based.</p> <p>The Video Management Software (VMS) Application & Video Analytics Software (VAS) Software Application should be from the Same OEM, to Achieve Seamless Integration Possibilities & Interoperability with each other.</p> <p>Video Analytics (VA) system should be native to the VMS.</p> <p>It should be possible to configure video analytics on any of the cameras from the Video Management System desktop client Application</p> <p>The VMS and VA must have tight integration so that there is no need to add cameras to VMS and VA servers separately.</p> <p>Video Management System and Video Analytics System should be from the same OEM.</p>		
12.	VMS shall be capable of being deployed in a virtualized server environment without loss of any functionality.		
13.	All CCTV cameras locations shall be overlaid in graphical map in the VMS Graphical User Interface (GUI). The cameras selection for viewing shall be possible via clicking on the camera location on the graphical map. The graphical map shall be of high-resolution enabling operator to zoom-in for specific location while selecting a camera for viewing.		
14.	VMS shall have an administrator interface to set system parameters, manage codecs, manage permissions and manage storage.		
15.	VMS day-to-day control of cameras and monitoring on client workstations shall be controlled through the administrator interface.		
16.	Whilst live control and monitoring is the primary activity of the monitoring workstations, video replay shall also be accommodated on the GUI for general		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
	review and also for pre- and post-alarm recording display.		
17.	The solution design for the VMS shall provide flexible video signal compression, display, storage and retrieval.		
18.	All CCTV camera video signal inputs to the system shall be provided to various command control center(s), viewing center etc., and the transmission medium used shall best suit the relative camera deployments and access to the CCTV Network.		
19.	VMS client shall have the capability to work with multi-monitor workstations. It shall be capable of displaying videos in up to three (3) monitors simultaneously.		
a.	AVI files		
b.	Motion- Joint Photographic Experts Group (M-JPEG)		
c.	Moving Picture Expert Group-4 (MPEG-4)		
d.	MP4 Export or Latest		
20.	All streams to the above locations shall be available in real-time and at full resolution. Resolution and other related parameters shall be configurable by the administrator in order to provide for network constraints.		
a.	The VMS shall support field sensor settings. Each channel configured in the VMS shall have an individual setup for the following settings, the specific settings shall be determined according to the encoding device:		
b.	The VMS shall support the following operations:		
c.	Adding an IP device		
d.	Updating an IP device		
e.	Updating basic device parameters		
f.	Adding/removing channels		
g.	Adding/removing output signals		
h.	Updating an IP channel		
i.	Removing an IP device		
j.	Enabling/disabling an IP channel		
21.	Refreshing an IP device (in case of firmware upgrade)		
22.	Multicast at multiple aggregation points		
23.	The VMS shall support retrieving data from edge storage. Thus when a lost or broken connection is restored, it shall be possible to retrieve the video from SD card and store it on central storage. System should support to view the recordings available over cameras local storage device (such as an SD card), and copy them to the server.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
24.	The VMS shall support bookmarking the videos. Thus, allowing the users to mark incidents on live and/or playback video streams.		
25.	The VMS shall allow the administrator to distribute camera load across multiple recorders and be able shift the cameras from one recorder to another by simple drag and drop facility.		
26.	VMS shall support automatic failover for recording & Management Servers. The Proposed VMS Solution Shall support native Fail over with in the application with no dependency on any external application for both hardware and application redundancy. Solutions with external clustering like Windows Clustering, Microsoft SQL Clustering and VMware or Hyper-V etc. should not be proposed. The native failover architecture must be for both management and recording servers.		
27.	VMS should also support dual recording or mirroring if required.		
28.	VMS shall support manual failover for maintenance purpose.		
29.	VMS shall support access and view of cameras and views on a smartphone or a tablet (a mobile device).		
30.	VMS shall support integration with the ANPR application.		
31	VMS shall support integration with other online and offline video analytic applications.		
32	VMS shall be able to accept alerts from video analytics built into the cameras, other third party systems, sensors etc.		
33	The VMS shall be based on a true open architecture that shall allow the use of non-proprietary workstation and server hardware, non-proprietary network infrastructure and non-proprietary storage.		
34	The Video Management Software (VMS) Application OEM shall have a direct Registered Office in India without any Collaboration, Joint Venture, Distributor, Parent Company & should have a Valid Registration & should be Operational in India for the Last 10 Years as on the Bid Publishing Date.		
35	The Video Management Software (VMS) Application OEM shall also have a Dedicated Support, Research & Development (R&D) Centre in India since the Last 10 Years as on the Bid Publishing Date.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
36	<p>The Video Management Software (VMS) Application OEM should have the Following Certificates:</p> <ul style="list-style-type: none"> A. ISO 9001:2015 - Quality Management Certifications B. ISO 27001:2013 - Information Security Management Systems, C. ISO 14001:2015 – Environmental Management System D. ISO 45001:2018 – Occupational Health & Safety Management System E. CMMI Level-3 <p>The Above Certifications are the Minimum requirements to ensure Quality OEM Participation All of these Certificates to be Submitted by the OEM for Evaluation. These Certificates should be from The Video Management Software (VMS) Application OEM’s with their Name & Address reflecting in the Certificates.</p>		
36	<p>The Offered Video Management Software (VMS) Application should have undergone Security Audit as per OWASP Guidelines & must Possess an Application Security Audit Certificate from CERT-IN Empanelled Auditors for the VMS Application as per the OWASP Guidelines to Mitigate Cyber Security Attacks.</p> <p>The Application must have already undergone Security Audit Certification/Auditing on or before the Bid Publishing Date.</p> <p>The Security Audit Certificate must be Submitted as a Documentary Evidence/Proof.</p>		
37	<p>The Intellectual Property Rights (IPR) of Offered Video Management Software (VMS) must not reside in Country sharing Land Border with India.</p> <p>The Video Management Software (VMS) Offered should not be Developed/manufactured by an entity in which the majority shareholding of the entity is from a Country sharing a Land Border with India.</p> <p>OEM must provide with a Declaration about the Intellectual Property Rights (IPR) & Source Code Residence/Filing in the respective Country as a Documentary Evidence.</p> <p>The OEM who is Claiming to be Make in India OEM with Local Content greater than 50%, then their Intellectual Property Rights (IPR) & Source</p>		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
	Code must Reside in India only. Documentary Evidence to be Provided.		
2	Client System		
1	The Client system shall provide remote users with rich functionality and features as described below:		
2.	Viewing live video from cameras on the surveillance system.		
3.	Browsing recordings from storage systems.		
4.	Creating and switching between multiple of views.		
5.	Viewing video from selected cameras in greater magnification and/or higher quality in a designated hotspot.		
6.	Using digital zoom on live as well as recorded video.		
7.	Using sound notifications for attracting attention to detected motion or events.		
8.	Getting quick overview of sequences with detected motion.		
9.	Getting quick overviews of detected alerts or events.		
10.	Quickly searching selected areas of video recording for motion (also known as Smart Search).		
3	Remote Web Client		
1.	The web-based remote client shall offer live view of up to 9 cameras, including PTZ control (if applicable) and event / output activation. The Playback function shall give the user concurrent playback of multiple recorded videos with date, alert sequence or time searching.		
2.	User Authentication – The Remote Client shall support logon using the user-name and password credentials		
3	The VMS Web Client shall have Dashboarding Capabilities, such that the Dashboard should Support for Drawings/Maps GIS Layer, OSM Layer, Autocad .dwg File, .JPEG file format, .PDF file format, Customized Video Grid for Live & Playback of Video & Events Table		
4	The VMS Web Client shall show the Camera details with Key Performance Indicators like, Total Cameras connected, Total Cameras Disconnected, Status Visualization in the form of Pie Chart		
5	The VMS Web Client shall have a Reporting functionality in the form Camera Uptime, Downtime		
6	The VMS Web Client shall also show the Recording server status Report, Storage Space Available status & Reports.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
7	The VMS Web Client must support for H.265 Codec Live & Playback Streaming.		
8	The VMS Web Client shall support comprehensive data filtering for most reports based on entity type, event type, event timestamp, custom fields, and more.		
9	The VMS Web Client shall support the following actions on a report: print report, export report to a PDF/Microsoft Excel/CSV file, and automatically email a report based on a schedule and a list of one or more recipients.		
4	Mobile Client		
1.	The bidder shall be required to provide a standardized Mobile Application to integrate smart phones and tablets for 2-way communication with the Video Management System in a secure manner. It shall be responsibility of MSI to configure such tablets / Smartphone with the Surveillance System and ensure that all the necessary access is given to these mobile users.		
2.	Communication with mobile client and server shall be encrypted with Digital Certificate.		
5	Matrix Monitor		
1.	Matrix Monitor – The Matrix Monitor feature shall allow distributed viewing of multiple cameras on the system on any monitor.		
2.	The Matrix Monitor feature shall access the H.264/MJPEG/MPEG4 stream from the connected camera directly and not sourced through the recording server.		
6	Alarm Management Module		
1.	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.		
2.	The alarm management module shall provide interface and navigational tools through the client including;		
3.	Graphical overview of the operational status and alarms from servers, network cameras and external devices including motion detectors and access control systems.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
4.	Intuitive navigation using a map-based, hierarchical structure with hyperlinks to other maps, servers and devices or through a tree-view format.		
5.	The module shall include flexible access rights and allow each user to be assigned several roles where each shall define access rights to cameras.		
6.	Basic VMS should be capable to accept third party generated events / triggers.		
7	Management / Integration Functionality		
1.	The Surveillance System shall offer centralized management of all devices, servers and users.		
2.	The Surveillance System should not have any limit on the number of cameras to be connected for Surveillance, Monitoring and Recording. Any increase in the no. of cameras should be possible by augmentation of Hardware and software licenses components with additional cost as per RFP conditions.		
3.	The Surveillance System shall support distributed viewing of any camera in the system using Video walls or big screen displays.		
4.	The Surveillance System shall support alarm management. The alarm management shall allow for the continuous monitoring of the operational status and event-triggered alarms from system servers, cameras and other external devices.		
5.	It should be possible to integrate the Surveillance System with 3rd-party software, to enable the users to develop customized applications for enhancing the use of video surveillance solution. For e.g., integrating alarm management to initiate SMS, E-Mail, VoIP call, etc.		
6.	The Management system shall store the overall network elements configuration in central database, either on the management server computer or on a separate DB Server on the network.		
7.	System should be able to be integrated with Event Management/Incident Management System.		
8	System Administration Functionality		
1.	The System Administration Server shall provide a feature-rich administration client for system configuration and day-to-day administration of the system.		
2.	The System Administration Server shall support different logs related to the Management Server. · The System Log		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
	<ul style="list-style-type: none"> · The Audit Log · The Alert Log · The Event Log 		
3.	<p>Rules: The system shall support the use of rules to determine when specific actions occur. Rules shall define what actions shall be carried out under specific conditions. The system shall support rule initiated actions such as:</p> <ul style="list-style-type: none"> · Start and stop recording · Set non-default live frame rate · Send notifications via email · Pop-up video on designated Client Monitor recipients 		
9	Other Miscellaneous Requirements		
1.	System should have a facility to create CDs or other storage media for submission to Judiciary, which can be treated evidence for legal matters. Such storage media creation should be tamper proof and MSI to provide appropriate technology so that integrity and quality of evidence is maintained as per requirements of the judiciary. Bidder is required to specify any additional hardware / software required for this purpose & the same can be listed in Miscellaneous section of the commercial bid. The bidder shall also prepare the guideline document to be followed by the Police Personnel for the retrieval of Video / images from the CCTV System so as to maintain integrity of the evidence. Such a guideline document should include methods of retrieval of data, check-list to be followed and flowchart of the entire process to be followed.		
2.	All the systems proposed and operationalization of Video Management System should comply with requirements of IT Acts.		
3.	Security Platform shall have strong security mechanism such as the use of advance encryption/digital certificates/ authentication to ensure that only authorized personnel have access to critical information, prevent man-in-the-middle attacks, and that the data is kept private.		
4.	System should ensure that once recorded, the video cannot be altered; ensuring the audit trail is intact for evidential purposes.		
	External Storage Connectivity & it's Resiliency		
5	The VMS must support for Connecting Multiple External Storage Devices in the form of Primary & Secondary Storage Drive.		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
6	It must also have the Option of Storage Drive Redundancy, wherein if the Primary Drive is Unavailable then the VMS Application/Recording Server must Automatically Start Recording in the Secondary Configured Drive.		
7	In Case of Recording has been done in Secondary Storage Drive, during the Failure of Primary Drives then after the Primary is restored the Recording that took place in the Secondary Drive shall be Synchronized in the Primary Drive.		
10	Major Server components for VMS		
10.1	Video Management Server(s)		
1	Video Management System Servers shall maintain coherent operations between all servers and workstations. It shall host Control Center, where the system is administered, and System database. It shall monitor one or more Recorder servers on separate dedicated computers, storage devices, IP-compatible devices, and one or more workstation. All network communication shall also be performed via the Video Management servers.		
10.2	Video Recording Server(s)		
1	The Video Recorder Server shall be a dedicated server that shall store and processes video with the help of Video Management System		
10.3	Video Analytics Server (s)		
1	Video Analytics Software shall be installed in the Video Analytics Server, Video Analytics is a software product that shall analyse live video in real-time to detect, identify, and track objects of interest. It shall automatically issue alerts to the appropriate personnel and initiate appropriate follow-up action according to pre-defined rules. This software shall also manage sensors; each sensor shall monitor a single video feed for security events. The video feeds shall be connected over the network to the Video Analytics Server. Sensors on the Video Analytics Server shall perform all event detection functions. Video Analytics (VA) system should be native to the VMS.		
10.4	Web Server(s)		
1	It shall be used to launch the client application remotely through web browsers.		
10.5	Gateway Server(s) – If required		
1	A Media Gateway server shall be used to establish remote connections to review and transcode the		

#	Minimum Specifications	Compliance (Yes/No)	Remarks
	video. Standalone Media Gateway servers shall also be installed on separate machines. Standalone servers shall be recommended for such large systems that shall transfer video data to remote clients.		

6.12. Monitoring Workstation

Sl. No.	Minimum Specification
1	Latest Generation Intel Xeon/AMD Ryzen 64 Bit server class processor with 3GHZ base frequency or higher with 12 MB Cache memory
2	Minimum 2X8 GB DDR4 @3200MHz Memory from day one and 2 slots should be free for future upgradability
3	8 GB GDDR5 AMD Radeon/NVIDIA Quadro Professional Graphics Card supporting 3 no. of 4K Monitor output
4	Expansion slots: Min. 1 PCIe Gen4 x16 slot & 1 PCI-E 3.0 x 1 and 2 Nos. M.2 slots
5	I/O ports: Total 10 Nos. USB Ports out of which min. 2 Nos. USB 3 ports and 4 Nos. USB 2.0 Ports
6	Single Gigabit NIC from Day 1
7	2 X 1.2 TB m2 SSD 2.5"
8	Network: 1 Gb/s (10/100/1000) Base-T LAN port
9	64 Bit Licensed Windows 10 Pro OS and recognized End Point Protection software with license for 5 year pre-loaded
10	SMPS: Should have Min. 750W 80 Plus Bronze certified Power supply from day 1.
11	Form factor: Tower
12	To be supplied with OEM Keyboard and Mouse (Same OEM)

6.13. Layer2 24 port 1G switch

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
1	Device Type:	Full managed L2 stackable switch with 24ports	
2	Ports Qty:	24x RJ45 10/100/1000 Mb auto-sensing ports, 2x SFP+ ports, 2x GbE combo media ports, 1x hot swap expansion module bay, 1x 200W PSU included	
3	Stacking Ports	2 rear stacking ports (20Gbps) supporting up to 80Gbps (full duplex)	
4	Memory		
5	RAM:	minimum 1GB SDRAM	
6	Flash Memory:	minimum 256 MB flash	
6	Packet Buffer	Minimum 32 MB	
7	Performance		
8	Switching Capacity	Minimum 210Gbps	

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
9	Switching Throughput	Minimum 158Mpps	
10	MAC Address Table Size	16000 MAC addresses	
11	802.1Q Vlans	4K 802.1Q vlans user configurable	
12	Networking Features		
13	Routing Protocol:	Static routing, RIP V1/V2, , VRRP,	
		, Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for IPv4 and IPv6	
		multicast applications	
14	Communication Mode:	Half-duplex, full duplex	
15	Switching Protocol:	Ethernet	
16	Status Indicators:	Link activity, port transmission speed, port duplex mode, power, link OK, system, temperature LED, Diagnostic LED, rest button	
17	Vlans	Should support Port, Voice, QinQ, Protocol, GVRP	
18	DHCP and BOOTP relay	Should support DHCP (udp helper), BootP, DHCP Relay, DHCP Snooping	
19	Redundancy Protocols	Should support STP, RSTP, MSTP, STP Root Guard, BPDU Guard, MLAG	
20	Qos	Flow based Qos service, port based qos service, ACL Qos,MAC based cos assignment, rate limiting and metering	
21	Security Features		
		Should support 802.1x and Guest vlans	
		Should support MAC based port security by number of MAC	
		Should support Packet filtering at L2/L4 with flow based classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, port, protocol, and VLAN. Malicious Code Detection	
		Should support Standard, Extended acl's	
22	Management Function		
23	OpenFlow	Should support Open Flow 1.x	
24	Configuration	Should support CLI,, and SNMP v1/v2/v3 based managements	
		Should support Sflow or equivalent technologies	
		Should support management vlans and Port namings to each interfaces	
		Should support Link Layer Discovery protocols	
		Should support multiple configuration and system files	
		Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6	
25	Miscellaneous		
26	Authentication Method:	Secure Shell (SSH), RADIUS, TACACS+	
27	Power		

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
28	Warranty	5 Years 24 x 7 Warranty the Warranty should reflect in OEM site	

6.14. 24 Port 10 G Switch

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
1	Ports Scalability	The switch should support 24x 10g sfp+ interfaces and 2x QSFP28 interfaces.	
2	High Availability	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.	
3	Inte core connectivity	The switches should be interconnected to offer linerate speed as desirable.	
4	Interfaces to connect Switch	The switch should support relevant 1G/10G/25G/40G interfaces to connect Distribution/Access Switch/Servers	
5	Performance		
6	Switching Capacity	Minimum 860 Gbps backplane or more	
7	MAC Address Table Size	Minimum 128K MAC addresses and ARP table	
8	Memory and Buffer	Switch should have 4GB RAM and 12MB packet buffer	
9	802.1Q Vlans	4K 802.1Q vlans with 4K vlan ID support	
10	Networking Features		
11	Data Link Protocol:	Gigabit Ethernet, 10 Gigabit,25 Gigabit, 40 Gigabit, 100Gigabit	
12	Routing Protocol:	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	Link Aggregation	Should support 32 ports upto max 128 LAG groups, should be able to LAG across switches	
16	Advance features	Switch should have BGP-EVPN, VRF, VXLAN, PFC, ETS, DCBX, ISCSI, ECN etc	
17	Status Indicators:	Link activity, port transmission speed, port duplex mode, power, link OK, system	
18	Compliant Standards:	IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.1D, IEEE 802.1Q, IEEE 802.3ab, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w, IEEE 802.1x, IEEE 802.1s, 802.3ae 10 Gigabit Ethernet, 802.3ba 40Gigabit Ethernet, 802.1p L2 Prioritization, 802.1Q VLAN Tagging, GVRP, 802.1D Bridging, GARP, GVRP, 802.3x Flow Control, 802.1ac Frame Extension for VLAN tagging, 802.1x Port based Network Access Control	
19	DHCP	Should support DHCP (Client, Snooping and Relay), with UDP helper	
20	Multicast	MLD Snooping v1/v2, MLD snooping, IGMP Snooping v1/v2/v3, PIM technologies	

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
21	Redundancy Protocols	Should support STP, RSTP, MSTP/PVST, Root Guard and BPDU Guard.	
22		Should support technologies similar to VLT, MLAG, ECMP etc	
23	Qos	Should support and create Policy Maps using DSCP values, QoS Rate Adjustment, Strict-priority Queueing, Weighted Random Early Detection, minimum 8 queues using 802.1p or similar	
24		should support remarking of 802.1p and DSCP priorities, along with Prioritization and Congestion Management.	
25	Security Features		
26		Should support all AAA functions with RADIUS and TACACS integration.	
27		Should support various storm control functions.	
28		Should support Control Plane / CPU protection using ACL and Qos.	
29		Should support 802.1x implementation using RADIUS	
30		Should support Ingress and Egress Acls	
31		Should be capable to support NAC implementation	
32	Management Function		
33	Configuration	Should support encrypted communication between the user accessing the device namely using all access methods CLI, SSHv2, SSL, and SNMPv3 and Secure FTP/TFTP	
34		Support be able to define various user Privilege level mapped to various configurations modes.	
35		Should support features like LLDP, LLDP-MED or equivalent	
36		The Operating image should be modular in architecture with the industry standard CLI would be preferred along with SNMP and XML support.	
37		The proposed switch should have the ability to disaggregate software and hardware using SDN feature and ONIE initiatives or equivalent.	
38		The Switch OS should provide Rest API integration and can work with configuration automation tools like Ansible, SALT, CHEF Etc.	
39		Should support Openflow to integrate with open source controllers	
40		Should support sFlow or equivalent	
41		Should support management vlans and Port namings to each interfaces	
42		Should support Link Layer Discovery protocols	
43		Should support multiple configuration and system files	
44		Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6	
45	Miscellaneous		
46	Physical parameter of switch		
47	Hardware	Switch should have 4 GB RAM, 4 GB SSD/Flash and 12MB packet buffer	
48	Voltage Required:	AC 120/240 V (50/60 Hz)	
49	Redundancy	The proposed switch should be offered FANs module and Power supply Redundancy.	

Make & Model			
#	General	Descriptions	Compliance (Yes/No)
50	operating specifications	Operating temperature: 32° to 104°F (5° to 40°C)	
51	Voltage Required:	AC 120/240 V (50/60 Hz)	
52	Datacenter Cooling	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.	
53	Compliant Standards:		
54		Should be ROHS Compliant, IPv6 Ready for both Host and Router,	
55	Safety	UL/CSA 60950-1, Second Edition	
56		EN 60950-1, Second Edition	
57	Immunity	EN 300 386, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3,EN 61000-4-4,EN 61000-4-5,EN 61000-4-6 or equivalent standards	
58	Warranty	5 Years 24 x 7 Warranty the Warranty should reflect in OEM site	

6.15. 8 Port Switch

Make & Model			
Sl. No.	Minimum Specification		Compliance (Yes/No)
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	Web-based, Telnet and Console (CLI) configuration, and Windows-based monitoring		
6	Supports Jumbo Frame up to 9 KB or better for streaming video applications		
7	Should be supplied with DIN rail mount kit		
8	Operating temperature: 70 Degree or better		
9	Certification UL and NEMA TS2/IP 30, EN61000-4-5 (Surge)/IEC61000-4-5 (Surge). The OEM should have 24X7 India TAC center with tollfree number.		
10	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.		

6.16. 9U Wall mount Rack

Make & Model		
Sl. No.	Minimum Specification	Compliance (Yes/No)
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)	
6	Rack to be proposed as per all switch depth sizing so that it can be easily locked without any obstruction from the front and back side with all cables and patch panels, loose cables and accessories fully loaded as per site requirement.	

6.17. Server Rack

Make & Model		
Sl. No.	Minimum Specification	Compliance (Yes/No)
1	18U or higher Floor mounted cabinets as per sizing requirement of switches, server, storage, PDU, Patch Panels with reversible front door made of safety glass of thickness 4 mm supplied with cable manager to be proposed. Fully loaded Rack to be locked from front and back side without any obstruction.	
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	

6.18. Cat6 Field Termination Plug

Make & Model		
Sl. No.	Minimum Specification	Compliance (Yes/No)
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	

6.19. 20 KVA On-Line UPS

Make and Model			
#	Parameter	Minimum Specification	Compliance by Bidder
1	TECHNOLOGY	IGBT based DSP controlled double conversion On-line	
2		Built-in Isolation Transformer on the Inverter output	
	Input		
3	Rated voltage	415 VAC three-phase + N	
4	Voltage Range	- 25% + 20% at 100% load	
5	Frequency Range	47.5 to 52.5 Hz	
6	Power Factor	≥ 0.98	
7	Input current THD	≤ 3%	
8	Power Walk-in	Progressive in 10 seconds	
	Batteries		
9	Type	Sealed Maintenance Free Lead Acid	
10	Make	Exide / Amara raja	
11	Backup Time	120 Minutes	
12	Minimum Battery VAH required	49920 VAH	
13	Recharge Time	6-8 Hrs.	
14	Automatic battery test	The UPS carry out battery tests automatically. The period between and the duration of the test can be configured via the control panel, or the test can be completely deactivated.	
	Output		
15	Active Power	20 KVA	
16	Number of Phases	Single	
17	Rated Voltage	220 – 230 – 240 V AC Selectable	
18	Power Factor	0.9	
19	Voltage setting	via Control Panel	
20	VTHD	<3% for Linear load	

Make and Model			
#	Parameter	Minimum Specification	Compliance by Bidder
21	Crest factor (I _{peak} /I _{rms})	4:01	
22	Waveform	Sinewave	
23	Frequency	50/60 Hz selectable	
24	Transient Response	5V for a step load of 100%	
25	Overload	110% for 1 Hr., 125% for 10 mins., 150% for 1 min.	
26	Overall efficiency at full load	≥ 92%	
	Protection		
27	Normal Protection	Input, output, rectifier input, battery fuse, bypass fuse, short circuit etc. Thermal on system, rectifier, bypass and inverter.	
28		Protection against prolonged battery discharge	
29	Back Feed Protection	The back feed protection device should prevent any current that could cause an electric shock from back feeding to the incoming power supply connection	
	Environmental Conditions		
30	Operating temp. for UPS	0 – 45° C	
31	Relative humidity	<95% non-condensing	
32	Noise	<65dBA at 1 m	
	Mechanical Data		
33	Protection Degree of the cabinet	IP 20	
34	Cable input	Bottom	
	Display & Indications:		
35	Minimum List of information to be appeared on the LCD Display	Line input voltage, Frequency	
36		Output Voltage, current & frequency	
37		Output apparent power, Load output apparent power per phase	
38		Total Load Power, Apparent Power, Active Power, Load output Power Factor	
39		Load Power Percentage per phase, Total connected load in percentage	
40		Bypass voltage, input frequency	
41		Inverter voltage, Frequency	
42		Battery voltage, DC Bus voltage, charging current, discharging current,	
43		Battery max discharge time in battery mode, Battery warn volt, shutdown volt	

Make and Model			
#	Parameter	Minimum Specification	Compliance by Bidder
44		Temperature – Control board, Rectifier SCR, Inverter IGBT	
45		System shutdown time, restart time	
		<u>Setting:</u>	
45		Clock, Date, Service contact, Battery Test, RS485, MODBUS, ALARM	
46	LED Indication	UPS Start, Standby, Bypass Mode, Line Mode, Battery Mode, Fault, Warning Battery Test, ECO Mode	
47	Buzzer	Beeping sound for Bypass, Standby, Battery Test, Low Battery, Fault, Warning for overload	
	Other Key features:		
48	Reliability of the system	The total system (Charger & Inverter section) is controlled by redundant microprocessor system. If a fault occurred to either of the microprocessors, the power supply to the protected load will not be interrupted	
49	EMI Filter	Input & output EMI Filter provided inside the UPS	
50	Mimic Display	Mimic diagram is provided to know the status of the rectifier, inverter, battery and output.	
51	EPO (Emergency Power Off)	In the event of an emergency the UPS can completely shut down by an external command	
52	Standards	Comply the following safety, EMC & RoHS Standards:	
53		Low Voltage Directive 2006/95/EC : Test Standards CEI EN 62040-1	
54		EMC Directive 2004/108/EC: Test Standards EN 62040-2	
55		RoHS Directive 2011/65/EU and its amendment (EU) 2015/863 : Test Standards IEC62321-3-1 :2013, IEC62321-5 :2013, IEC62321-6 :2015, IEC62321-7-1 :2015 & IEC62321-7-2 :2017, IEC62321-4 : 2013+AMD1 : 2017, IEC 62321-8 :2017	
56	Quality Certification	ISO 9001:2015; ISO 14001:2015; ISO 50001:2011 & ISO 45001:2018	
57	OEM should have mandate EPR Authorization from Central Pollution Control Board, Govt. of India.		
58	OEM Should have its Sales Tax Registered Office in Bihar with Service Center and own infrastructure of Service Support Network / Service Engineers in Bihar		
59	The bid must be submitted along with Manufacturer / OEM Authorization & OEM step-by-step compliance against technical specifications.		
60	Make		
61	Model No.		

6.20. 3 KVA Online UPS

Make & Model			
#	Parameter	Minimum Specification	Compliance (Yes/No)
1	Technology	Digitally controlled, IGBT based double conversion On-line	
	INPUT		
2	Phase	Single Phase	
3	Nominal Voltage	230V AC	
4	Voltage Range	160V - 300V AC	
5	Frequency Range	45 - 55 Hz	
6	Power Factor	>0.99	
	OUTPUT		
7	Nominal Output voltage	220VAC / 230VAC / 240VAC /± 1%	
8	Frequency	50Hz ± 0.1%	
9	Frequency synchronization	46 to 54 Hz	
10	Power Factor	0.8	
11	Crest Factor	3:01	
12	Operating Temperature	0 ~ 45°C	
13	Voltage THD	<2% Linear Load	
14		<3% Non-Linear Load	
	Efficiency		
15	AC/AC	≥ 92%	
16	Communication	RS 232 & SNMP interface must be provided	
	Batteries		
17	Back up	120 Minutes (Min 9600 VAH)	
18	Battery type	Sealed Maintenance Free	
19	Battery make	Exide/ Amara Raja	
	Features		
20	Indication	Mains ON, Inverter ON / Faulty, Battery Level, Static bypass ON, Load Level, Overheating, overload etc.	
21	Display	LCD for input & output voltage, input & output frequency, Battery voltage, Battery level bar graph, Load level bar graph, Load %, Fault Code, Self-test, Temperature etc.	
	Mechanical		
22	Protection	Advanced Electronics protection for device safety backed with MCB's / MCCB's, fast acting fuses, Short Circuit protection etc.	
23	Bypass	Static Bypass	
	Certification		

Make & Model			
#	Parameter	Minimum Specification	Compliance (Yes/No)
24	Standards	Should comply the following safety, EMC & RoHS Standards:	
25		Low Voltage Directive 2006/95/EC: Test Standards CEI EN 62040-1	
26		EMC Directive 2004/108/EC: Test Standards EN 62040-2	
27		RoHS Directive 2011/65/EU and its amendment (EU) 2015/863: Test Standards IEC62321-3-1 :2013, IEC62321-5 :2013, IEC62321-6 :2015, IEC62321-7-1 :2015 & IEC62321-7-2 :2017, IEC62321-4: 2013+AMD1 : 2017, IEC 62321-8 :2017	
28	Quality Certification	ISO 9001:2015; ISO 14001:2015; ISO 50001:2011 & ISO 45001:2018	
29	OEM should have mandate EPR Authorization from Central Pollution Control Board, Govt. of India.		
30	OEM Should have its Sales Tax Registered Office in Bihar with Service Center and own infrastructure of Service Support Network / Service Engineers in Bihar		
31	The bid must be submitted along with Manufacturer / OEM Authorization & OEM step-by-step compliance against technical specifications.		

7. Manpower Requirements

System Integrator has to provide the senior expert at Beltron Bhavan, (BSEDC, Patna) to meet the SLAs and manage the Surveillance System at the police stations round the clock.

#	Designation	Qty.	Exp.	Qualifications	Relevant Exp.
1	L1 Field level Engineers	2	>=5 years	BCA/BSC/Dip Engineer	min. qualification Regular BCA/BSC/Dip Engineer with 2 years post qualification experience

8. BoM and Financial Bid format

Cost Bid Format Part I:

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %) (C)	GST (C)	Amount (D =Ax(B+C))
A Camera (As per Technical Specification in Section)								
1	5 MP IP IR Bullet/Dome camera as per min specification with 64 GB Micro SD Card, with 5 years support.		Pc*	45				

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %)	GST (C)	Amount (D =Ax(B+C))
2	2 MP IP IR Bullet/Dome camera as per min specification with 64 GB Micro SD Card, with 5 years support.		Pc*	52				
3	2 MP IP IR PTZ camera as per min specification with 64 GB Micro SD Card, with 5 years support.		Pc	6				
4	8 MP Panoramic IP Cameras (360 Deg.) as per specification with 64 GB Micro SD Card. with 5 years support.		Pc	4				
5	ANPR camera with 5 years support as per minimum specification.		Pc	4				
6	PTZ Joystick as per specification with 5 years support.		Pc	2				
7	Video Monitoring, Recording & Management software with Failover license including all camera and server-based recording in HA, Simultaneous Live monitoring, management, minimum 5 Admin user and 1 Joystick support license with 5 years support as per minimum specification.		Software	100				
8	Video Analytics Management software for 5 years onsite NBD support from OEM.		License	97				
9	4 ANPR camera connection license Management software License 5 years onsite NBD support from OEM.		License	4				
B	Hardware (As per Technical Specification in Section)							

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %)	GST (C)	Amount (D =Ax(B+C))
1	Rackmount High Availability VMS Server & Management specification with 5 years onsite NBD support from OEM.		Nos	4				
2	Workstation System for, as per minimum specification with 5 years onsite NBD support from OEM		Nos	2				
3	SAN 100TB Storage for Full HD Recording @ 15FS with 30 days recoding backup as per minimum specification with 5 years onsite NBD support from OEM		No.	1				
4	SAN 100TB Storage for D1 Recording with 100 days recoding backup as per minimum specification with 5 years onsite NBD support from OEM		No.	1				
5	55" Commercial Display (24x7) Video Display, switch and as per minimum specification with 5 years onsite NBD support from OEM		No	4				
C Networking Active Components (As per Technical Specification in Section)								
1	24 x 1/10 Gbps ports with fully loaded as per minimum specification with 5 years onsite NBD support from OEM		Nos	4				
2	24 Port 10/100/1000 Mbps 10Base-T PoE+ port Switch with 4 SFP+ populated as per minimum specification with 5 years onsite NBD support from OEM		Nos	8				

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %)	GST (C)	Amount (D =Ax(B+C))
3	8 Ports 10/100/1000Base-T PoE+ Switch with 2 SFP+ populated as per minimum specification with 5 years onsite NBD support from OEM		Nos	15				
4	Network Monitoring Software with 5 years support as per minimum specification.		No	150				
D Networking Passive Components (As per Technical Specification in Section)								
1	06 Core Single Mode Armoured OFC		Mtr	2000				
2	Fully Loaded LIU Rack mountable,		Nos	15				
3	Single Mode patch cord duplex 5M, with 5 years support as per minimum specification.		Nos	60				
4	Optical Termination Box (OTB)		Nos	15				
5	CAT6 U/UTP Rodent Resistant Cable Specification (Per Box 305 Mtr.),		Box	15				
6	CAT 6 U/UTP 24Port Fully Loaded Jack Panel,		Nos	10				
7	CAT6 U/UTP Patch Cord 1Mtr		Nos	100				
8	CAT6 U/UTP Patch Cord 5Mtr		Nos	50				
E Non-IT equipment's (As per Technical Specification in Section)								
1	Online UPS 20 KVA with battery bank as per specification For Server, with 5 years support.		Nos	2				
2	Online UPS 3 KVA with battery bank for end point Camera per minimum specification (centralized Camera power System), with 5 years support.		Nos	2				

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %)	GST (C)	Amount (D =Ax(B+C))
3	Smart Network & Server Rack 42U		No.	2				
4	Enclosure for Pole mount / Wall mount as per minimum specification,		Nos	15				
5	9U Wall mount double Section Rack		Nos	15				
6	Electric Cable 3 core 1.5mm Armoured as per minimum specification		Mtr	1500				
F Installation part (As per Technical Specification in Section)								
1	CAT 6A UTP Cable Laying, Jack panel Patching, Patch Cord, CCTV camera Mount and configuration, node Tagging, penta scanning, Cable marking, PVC conduit, flexible pvc pipe. ..etc.		Mtr	4000				
2	OFC Laying, LIU Splicing, OTB installation, Route Tagging, OTDR scanning report, Cable marking ..etc.		Mtr	2000				
3	Electrical Cable Laying with all accessories, PVC conduit, flexible pvc pipe, provision of switches, socket & Board as per requirement. etc		Mtr	1000				
4	Installation of earthing 10 Ft. for server Room with UPS MS Panel, with 5 years support as per minimum specification.		No	2				
5	Camera pole & Foundation, with 5 years support as per minimum specification.		No	10				
6	Installation & commissioning		No	1				

#	Description	Make & Model	UoM	Qty. (A)	Unit Price (B)	GST (in %) (C)	GST (D)	Amount (E = A x (B+C))
7	Including 2 Technical Manpower for 5 years (from Monday to Saturday including excluding state Govt. Holidays during office hours 9 AM to 6 PM).		Month	120				
Total								

*Note: - BoQ cost is indicative and post site survey there may be a variation of all items of BoQ. However, the variation should not be more than 20-30 percent.

Cost Bid Format Part II: AMC cost

AMC cost for all items					
SR. NO.	ITEM DESCRIPTION	AMOUNT (A)	TAX (in %) (B)	TAX (C)	TOTAL (E = A+B)
1	1 st Year AMC and O&M cost for all items				
2	2 nd Year AMC and O&M cost for all items				
3	3 rd Year AMC and O&M cost for all items				
4	4 th Year AMC and O&M cost for all items				
5	5 th Year AMC and O&M cost for all items				
Total					

Cost Bid Format Part III: Manpower Cost

#	ITEM DESCRIPTION	QTY (A)	Monthly Rate (B)	Total Months (C)	Amount (D = A x B x C)	GST (in %) (E)	GST (F)	TOTAL (G = D+E)
1	L1 Field Engineer	2		60				

Note: - It is the bidder's responsibility to conduct the detailed survey. Indicative map of the site will be available with BSEDC that may be referred on request for preparation of final bill of material. The quantity of the passive items or approx. qty. indicated items are indicative only for selection of bidder. However, the payment for the passive components or approx. qty. will be made as per actual only. It is bidder responsibility to consider cost of any additional components needed other than mentioned in the bill of material as part of their bid in order to make the solution fully active. No additional payment will be made for the same.

Note1: - In case of difference between the unit price and the calculated total price, unit price will be applicable, and recalculation will be made accordingly. In case of difference between value in figure and value in words, the value in words will be applicable. The L1 bidder for total project cost for five year shall have to accept the L1.

Note 2: - The taxes will be paid as per actual.

Note 3: - The tender will be awarded to the vendor quoting lowest value against **TOTAL PROJECT COST** with one-year comprehensive warranty including taxes at current applicable rates. However, in case of any discrepancy by the bidder in mentioning current applicable tax rates, BSEDC will either make recalculation of the bid value making required corrections and evaluation of financial bid for selection of the bidder will be made on the corrected recalculated value or may summarily reject the financial bid of the bidder making the discrepancy in its bid.

Cost Bid Format:

I: Capital Expenditure for the Project			
#	Items	Ref Schedule	Total Price
1	Infrastructure Cost	Cost Bid Format Part I	
I	Total CAPEX Cost		
II: Operational Expenditure for the Project			
#	Items	Ref Schedule	Total Price
2	AMC and O&M cost for all items	Cost Bid Format Part II	
3	Manpower Cost	Cost Bid Format Part III	
II	Total OPEX Cost		
Grand Total (I+II)			
Total Project Value (In Words :)			

8.1. AWARD OF PROJECT (L1 COST)

The bidder who will quote the lowest price (L1) in **Cost Bid Format** will be considered as a selected vendor for the execution and running of Project. The project will be awarded to the L1 bidder. If required, BSEDC may place order to selected vendor for other surveillance installation also on the discovered rates.

8.2. FORCE MAJEURE

Neither party shall be responsible to the other for any delay or failure in performance of its obligations due to any occurrence commonly known as Force Majeure which is beyond the control of any of the parties, including, but without limited to, fire, flood, explosion, acts of God or any Governmental body, public disorder, riots, embargoes, or strikes, acts of military authority, epidemics, strikes, lockouts or other labour disputes, insurrections, civil commotion, war, enemy actions. If a Force Majeure arises, the Bidder shall promptly notify BSEDC in writing of such condition and the cause thereof. Unless otherwise directed by BSEDC, the Bidder shall continue to perform its obligations under this Agreement as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

8.3. & Limitation of Liability

Clause 1

Successful System Integrator (the "Indemnifying Party") undertakes to indemnify BSEDC (the "Indemnified Party") from and against all **Indemnity** Losses on account of bodily injury, death or damage to tangible personal property arising in favour of any person, Board or other entity (including the Indemnified Party) attributable to the Indemnifying Party's negligence or wilful default in performance or non-performance under this Agreement. If the Indemnified Party promptly notifies Indemnifying Party in writing of a third-party claim against Indemnified Party that any Service provided by the Indemnifying Party infringes a copyright, trade secret or patents incorporated in India of any third party, Indemnifying Party will defend such claim at its expense and will pay any costs or damages that may be finally awarded against Indemnified Party. Indemnifying Party will not indemnify the Indemnified Party, however, if the claim of infringement is caused by (a) Indemnified Party's misuse or modification of the Service; (b) Indemnified Party's failure to use corrections or enhancements made available by the Indemnifying Party; (c) Indemnified Party's use of the Service in combination with any product or information not owned or developed by Indemnifying Party; (d) Indemnified Party's distribution, marketing or use for the benefit of third parties of the Service; or (e) information, direction, specification or materials provided by Indemnified Party or any third party contracted to it. If any Service is or likely to be held to be infringing, Indemnifying Party shall at its expense and option (i) procure the right for Indemnified Party to continue using it, (ii) replace it with a non-infringing equivalent, (iii) modify it to make it non-infringing. The foregoing remedies constitute Indemnified Party's sole and exclusive remedies and Indemnifying Party's entire liability with respect to infringement.

Clause 2

The indemnities set out shall be subject to the following conditions:

- I. The Indemnified Party as promptly as practicable informs the Indemnifying Party in writing of the claim or proceedings and provides all relevant evidence, documentary or otherwise.
- II. The Indemnified Party shall, at the cost of the Indemnifying Party, give the Indemnifying Party all reasonable assistance in the Defence of such claim including reasonable access to all relevant information, documentation and personnel provided that the Indemnified Party may, at its sole cost and expense, reasonably participate, through its attorneys or otherwise, in such Defence; and such cost borne by the indemnified party shall be deducted from the payment due to the Indemnifying party.
- III. If the Indemnifying Party does not assume full control over the Defence of a claim as provided in this Article, the Indemnifying Party may participate in such Defence at its sole cost and expense, and the Indemnified Party will have the right to defend the claim in such manner as it may deem appropriate, and the cost and expense of the Indemnified Party will be included in Losses.
- IV. The Indemnified Party shall not prejudice, pay or accept any proceedings or claim, or compromise any proceedings or claim, without the written consent of the Indemnifying Party.
- V. All settlements of claims subject to indemnification under this Clause will:
 - A. Be entered into only with the consent of the Indemnified Party, which consent will not be unreasonably withheld and include an unconditional release to the Indemnified Party from the claimant or plaintiff for all liability in respect of such claim; and
 - B. Include any appropriate confidentiality agreement prohibiting disclosure of the terms of such settlement.
- VI. The Indemnified Party shall account to the Indemnifying Party for all awards, settlements, damages and costs (if any) finally awarded in favour of the Indemnified Party which are to be paid to it in connection with any such claim or proceedings

- VII. The Indemnified Party shall take steps that the Indemnifying Party may reasonably require to mitigate or reduce its loss as a result of such a claim or proceedings
- VIII. In the event that the Indemnifying Party is obligated to indemnify an Indemnified Party pursuant to this Article, the Indemnifying Party will, upon payment of such indemnity in full, be subrogated to all rights and defences of the Indemnified Party with respect to the claims to which such indemnification relates; and
- IX. If a Party makes a claim under the indemnity set out under Clause 15.1 above in respect of any particular Loss or Losses, then that Party shall not be entitled to make any further claim in respect of that Loss or Losses (including any claim for damages).

The liability of SI (whether in contract, tort, negligence, strict liability in tort, by statute or otherwise) for any claim in any manner related to this Agreement, including the work, deliverables or Services covered by this Agreement, shall be the payment of direct damages only which shall in no event in the aggregate exceed the amount specified in the contract. The liability cap given under limitation of liability clause shall not be applicable to the indemnification obligations set out here.

In no event shall either party be liable for any consequential, incidental, indirect, special or punitive damage, loss or expenses (including but not limited to business interruption, lost business, lost profits, or lost savings) nor for any third-party claims (other than those set-forth in this section) even if it has been advised of their possible existence.

The allocations of liability in this Section represent the agreed and bargained-for understanding of the parties and compensation for the Services reflects such allocations. Each Party has a duty to mitigate the damages and any amounts payable under an indemnity that would otherwise be recoverable from the other Party pursuant to this Agreement by taking appropriate and commercially reasonable actions to reduce or limit the amount of such damages or amounts.

8.4. ARBITRATION

- BSEDC and the selected agency Limited shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with this Agreement.
- If, after thirty (30) days from the commencement of such informal negotiations, Any and all disputes, controversies and conflicts (“Disputes”) arising out of this Agreement between the parties or arising out of or relating to or in connection with this Agreement or the performance or non-performance of the rights and obligations set forth herein or the breach, termination, invalidity or interpretation shall resolve or settle amicably through mutual negotiation and discussions, if the dispute/disputes is not settled amicably then in that case it shall be finally decided by reference to Bihar Arbitration Tribunal in accordance with Bihar Public Works Contracts Dispute Arbitration Tribunal Act, 2008, Rules framed there under or procedure prescribed by the Bihar Arbitral Tribunal. The award of Bihar Arbitral Tribunal shall be final and binding on the parties. It is further clarified in case any dispute/s is/are not come in the preview of “Work Contract” defines under the Section 2 (k) of the public Works Contracts Dispute Arbitration Tribunal Act, 2008, then in that case same shall be governed as per provisions of Arbitration and conciliation Act, 1996 and shall be referred for arbitration in terms of the Arbitration and Conciliation Act, 1996 or any amendments thereof. The place of arbitration shall be Patna and the language used in the arbitral proceedings shall be English. The arbitral award shall be in writing and shall be final and binding on each party and shall be enforceable in any court of competent jurisdiction and sole arbitrator shall be appointed by the Managing Director, BSEDC

9. ANNEXURE

9.1. ANNEXURE A - BG FORMAT

IRREVOCABLE BANK GUARANTEE NO

BENEFICIARY:

Bihar State Electronics Development Corporation Ltd
Beltron Bhawan,
Shastri Nagar, Patna-800023

At the request of M/s ----- (Name of the vendor with full address), we hereby guarantee to pay you a sum of Rs..... (Rupees....) In connection with the Tender for supply, installation and commissioning of IP based CCTV surveillance (Name of the items supplied by the vendors, against Purchase Order No. -----) etc. (Schedule- no. - --, Item No-----) against **Earnest Money Deposit/Security Deposit** as prescribed under the **Tender Document NIT** (Tender Notice No.: ----- dated: -----.) and its subsequent corrigendum.

This guarantee is valid for a period of ----- months with effect from (.....) to (.....) and after which no claim will be entertained by us and this guarantee will automatically become null and void.

Any claim under the guarantee must be made in writing duly signed by BSEDC and must be received and acknowledged by us on or before the guarantee expiry date.

This bank guarantee may be renewed from time to time upon a written request by both the parties before the expiry of the validity.

Notwithstanding anything contained herein

- a) Our liability under this guarantee shall not exceed the amount mentioned above i.e. Rs-----
----- (In words)
- b) This Bank Guarantee shall be valid up to -----
- c) We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee and only if served upon us a written claim on or before-----

Dated the-----day of----- (Month) ----- (Year) for-----

(Name of the Bank with fully address)

Details of Bank Guarantee i.e., no. date etc.

Authorized signatory/ Branch Manager

(Details of Bank)

9.2. ANNEXURE B- TEMPLATE FOR PRE-BID QUERIES

QUERIES/CLARIFICATIONS

RFP purchase receipt no.:-

Date:

Name of the Bidders:

Address:

Telephone

Nos: Fax

No:

Mobile

No:

Email

ID.:

Sl. No.	Page No. in the RFP	Section No.	Clause No.	Particulars of the query/clarification	Remarks
01					
02					
03					
04					
05					

Authorized Signatory

Designation

9.3. ANNEXURE C– (MAF FORMAT)

OEM Ref. No.:

To,

**The Managing Director
Bihar State Electronics Development Corporation Ltd.
BELTRON BHAWAN
Shastri Nagar
PATNA – 800023, BIHAR**

Subject: Authorization for Supply, Installation, Testing and Commissioning of CCTV Surveillance System at Vidhan Sabha Annex Building, Patna, Bihar.

Tender Ref No.:

Dated:

We, M/s. _____ who are established and reputed manufacturers of _____ having factories / Depot as at _____ and _____ do hereby authorize M/s. _____ (Name and address of bidder) to offer their quotation and conclude the contract with you against the above invitation for the Bid, as one of our Authorized Dealers (Dealer Name and address to be mentioned)

We hereby confirm that the..... *Equipment Name*..... including all components delivered to the Corporation will be brand new. We also declare that all the software / components supplied by the supplier is licensed and legally obtained.

We, hereby, extend our comprehensive warranty as per terms and conditions of the Tender for our products/software offered against this invitation for Bid by BSEDC. We, hereby confirm that the spares/support for the product offered should be available for after sales service for at least 04 years.

Dated at _____ this _____ day of _____ 20 _____.

Authorized Signatory

Signature:

Name:

Designation:

Name & Address of the company:

Seal of the Company*

9.4. ANNEXURE E– List of Camera Location

अनुसूची–“ए” (चाहरदीवारी से श्वेत रेखा तक)

क्रम0सं0	स्थल	प्रस्तावित नये कैमरे
1	गेट नं0 10	1
2	वी.आई.पी. पार्किंग	3
3	अनुग्रह नारायण सिंह के मूर्ति के बगल में	1
4	स्टाफ पार्किंग	4
5	एनेक्सी भवन के उत्तर, पूरब एवं दक्षिण	4
6	गेट नं0 6	2
7	गेट नं0 7 (उत्तर एवं दक्षिण)	1
8	गेट नं0 8 को पूरब से देखते हुए	1
9	पोर्टिको नं0 2	1
10	पोर्टिको नं0 1	1
11	विधान परिषद ब्लॉक-2 उत्तर दिवाल	2
12	विधान परिषद ब्लॉक-2 पूर्वी दिवाल	2
13	विस्तारित भवन पोर्टिको	4
14	पुराना डी.जी.पी. भवन के पूर्वी दिवाल पर	1
15	विस्तारित भवन दक्षिणी गेट पोर्टिको	2
16	गेट नं0 4	3
17	गेट नं0 3	1
18	गेट नं0 2	3
19	गेट नं0 1	2
20	गेट नं0 16	2
21	गेट नं0 13	2
	कुल	43

अनुसूची–“बी” (चाहरदीवारी के भीतर)

क्रम0सं0	स्थल	प्रस्तावित नये कैमरे
1	माननीय अध्यक्ष के कार्यालय कक्ष के सामने का क्षेत्र	1
2	सचिव कक्ष के बाहर	1
3	हाउस	4
4	सदन के पिछले हिस्से में	2
5	विधान सभा कैन्टिन	2
6	विधान सभा कैन्टिन का गलियारा	1
7	कैन्टिन से नया भवन जाने का रास्ता	1
8	रेलवे आरक्षण का गलियारा	1
9	ग्राउंड फ्लोर का आंगन	2
10	प्रश्न शाखा	2
11	पत्रकार कक्ष	1
12	पत्रकार दीर्घा	1
13	वाचनालय	2
14	विडियो कांफ्रेंस कक्ष	2
15	नये भवन का दक्षिणी गेट	1

क्रम0सं0	स्थल	प्रस्तावित नये कैमरे
16	ग्राउड फ्लोर के सीढ़ी के पास	2
17	ग्राउड फ्लोर के दक्षिणी लिफ्ट के पास	1
18	पुराने भवन से नये भवन का रास्ता	2
19	पुस्तकालय का प्रवेश द्वार	2
20	जी-26	2
21	जी.-33 के सामने प्रवेश द्वार	1
22	नये भवन के प्रथम फ्लोर पर पुराने भवन से नये भवन के बीच के रास्ता	2
23	एफ-78 (अध्यक्ष के सामने का कक्ष)	1
24	प्रथम फ्लोर के लिफ्ट के पास	1
25	प्रथम फ्लोर के सीढ़ी के पास	1
26	नये भवन के दुसरे तल के सीढ़ी के सामने	1
27	सेन्ट्रल के लिफ्ट के पास	2
28	दुसरे तल्ले के लिफ्ट के पास	1
29	दुसरे तल्ले के सीढ़ी के पास	1
30	एनेक्सी सभागार	4
31	एनेक्सी मेन गेट	2
	कुल	50

Note: Dome cameras to be installed at all locations where false ceiling is there. Bullet cameras to be installed at all other locations.