

PUNJAB POLICE HOUSING CORPORATION LIMITED

POLICE COMPLEX, PHASE-VII, S.A.S. NAGAR.

BID DOCUMENT

Name of Work: **Design, Supply, installation, Commissioning, and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab.**

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Section 1: Invitation for Bids (IFB)

PUNJAB POLICE HOUSING CORPORATION LTD.

POLICE COMPLEX, PHASE-VII, SAS NAGAR.

TEL. NO.4080111, 4080112 & FAX No.4080107

E-TENDER NOTICE NO. 20/2025-26 DATED 18.07.2025

Online tenders for the below noted works are invited on two bid system (Technical Bid & Financial Bid) on item rate from the Suppliers should have experience & knowledge of similar type of supply. For detailed terms and conditions of the notice inviting tenders refer to website eproc.punjab.gov.in

| Sr. No | Name of Work | i) Estimated Cost ii) Earnest Money iii) Processing Fee iv) Tender Form Cost | Time Limit (in months) |
|--------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------|
| 01. | Design, Supply, Installation, Commissioning and Maintenance of AI based CCTV Surveillance System in 11 Nos. Jails in Punjab. | i) Rate to be quoted by the agency. ii) Rs.18.85 lacs iii) Rs.2360/- iv) Rs.1770/- | 02 |

| | | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| i) | Start Date of Downloading | 21.07.2025 Time 17:00 Hrs |
| ii) | Last Date of submission of Pre- Bid Queries on Email ID: ranjodh.singh@punjabpolice.gov.in | 24.07.2025 Time 11:00 Hrs |
| iii) | Pre- Bid meeting | 25.07.2025 Time 11:30 Hrs |
| iv) | Start Date of Bid submission | 29.07.2025 Time 17:00 Hrs |
| v) | Last date of Bid Submission | 18.08.2025 Time 11:00 Hrs. |
| vi) | Date & Time of Opening of Technical Bid | 19.08.2025 Time 11:00 Hrs |

CONDITIONS:

1. Bidders have to pay the Earnest Money Deposit (EMD), Tender Form Fee & Tender processing fee as mentioned above in online mode.
2. Interested bidders can purchase the tender documents online from website.
3. Pre-bid meeting will be held in the Conference room of PPHC.
4. **No queries will be entertained after last date and time of submission of Pre-bid queries.**
5. Bidders/ Contractors, who wish to submit online tenders can access tender documents on the website, fill it and submit the completed tender document into Electronic Tender on the website itself. Bidders/ Contractors shall attach scanned copies of all the paper, i.e., copies of the certificates as required in Eligibility criteria given in the Corrigendum/ Addendum/ Corrections/ Revised DNIT, if any will be published on the website.
6. If the date of opening of tenders happens to be a holiday then the tenders will be opened on the next working day.
7. Bid shall be valid for 90 days after the deadline date for Bid submission.

8. Bidders/ Contractors should have valid GST and PAN registration.
9. Bidders/ Contractors should have valid ESI and EPF registration. In case of unavailability of the same an undertaking should be submitted with the technical bid that ESI/EPF number will be arranged within one month from the date of allotment of work.
10. The quoted rates should be inclusive of all prevailing taxes.
11. The bid submitted by a bidder shall not be accepted, if the bidder has indulged in corrupt or fraudulent practice in the past or has made misrepresentation or has a record of poor performance.
12. MD, PPHC reserves the right to accept/ reject any or all tenders without assigning any reasons.

MANAGING DIRECTOR

1. Definition of Terms

| # | Term | Definition |
|----|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Agreement/contract | The Agreement entered between the Punjab Police Housing Corporation and the Agency, including all attachments, schedules, annexure thereto and all documents incorporated by reference therein and all amendments, corrigendum /corrigenda, changes thereto |
| 2 | Bidder | The use of the term “Bidder” in the Tender means the Single Agency offering the Bids. |
| 3 | Selected bidder or System Integrator (SI) | The party which will be selected through this RFP to carry out the project activities. |
| 4 | Bid /proposal | Offer by the Bidder to fulfil the requirement of the Client under the RFP/Contract for an agreed price. It shall be a comprehensive technical and commercial response to the Tender |
| 5 | Confidential Information | All information (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of each stakeholder and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this |
| 6 | Deliverables | Products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RFP Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines (such as security related, etc.), inter alia payment and/or process related etc., source code and all its modifications; |
| 8 | Go-live | The date of commencement of Operations and Maintenance phase after the successful completion of each Phase (FAT and acceptance of the overall solution by the Punjab Police Housing Corporation) |
| 9 | Project implementation | Project Implementation as per the testing standards and acceptance criteria prescribed by Punjab Police Housing Corporation or its |
| 10 | Request for Bids/ Tender Document | Written solicitation that conveys to the Bidder, requirements for products/ services that the Punjab Police Housing Corporation intends |
| 11 | Tender document/RFP/ bid document | The current document through which the department intends to hire a system Integrator for carrying out the project activities. |

| # | Term | Definition |
|----|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12 | SLA | The level of service and other performance criteria which will apply to the Services delivered by the Bidder; Performance and Maintenance SLA executed as part of the Master Service Agreement |
| 13 | SI | The bidder who is qualified & successful in the bidding process and is given the award of Contract and will be referred to as System Integrator (SI)/Implementation Agency |
| 14 | Department/ State/Authority/ Purchaser/client | The use of the term “Department/ State/Authority/ Purchaser” in the Tender means Punjab Police Housing Corporation. |

2. Section 2: Instruction to Bidders (ITB)

2.1. General

While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders are free to assess and propose the solution needed to meet the requirements. All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the Punjab Police Housing Corporation based on this RFP.

No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the Punjab Police Housing Corporation. Any notification of preferred bidder status by the Punjab Police Housing Corporation shall not give rise to any enforceable rights by the Bidder. The Punjab Police Housing Corporation may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the Punjab Police Housing Corporation without giving any reason. This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.

2.2. Eligible Bidders

Bids may be submitted by bidders as described below.

- a) The Bidder must be a company/ registered legal entity in India, which has the capabilities to deliver the entire scope of work as mentioned in the RFP.
- b) The bidders qualifying the Pre-qualification/ eligibility criteria mentioned in the RFP document shall be termed as Eligible Bidders and shall be eligible for opening of their Technical & Commercial Bids.
- c) Consortium partnership will not be allowed. The bidder must meet all eligibility criteria by itself.
- d) Any of the bidders shall not be permitted to quote multiple OEMs for same line item.

2.3. Compliant Bids/ Completeness of Response

The Bidder shall be deemed to have carefully examined the Terms & Conditions, Scope, Service Levels, Specifications, and Schedules of this RFP. If the Bidder has any doubts/clarifications, the Bidder shall submit the Pre-Bid queries before the last date and time to the purchaser seeking clarifications in writing in order that such doubt may be removed, or clarifications are provided.

Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.

Bids should be submitted in the English language only.

Failure to comply with the requirements of this paragraph may render the Bid(s) non-compliant and the Bid may be rejected.

Bidders must:

- i. Include all documentation specified in this RFP.
- ii. Follow the format of this RFP and respond to each element in the order as set out in this RFP.
- iii. Comply with all requirements as set out within this RFP.

2.4. Pre-BID Conférence & Clarifications

2.4.1 Pre-BID Conférence

- a) Pre-bid meeting shall be held for clarifying doubts of Prospective bidders. Prospective bidders, requiring any clarification on the DNIT requirements may notify PPHC by email at the email address indicated in the DNIT, before due date and time for submission of Prebid queries. No queries shall be entertained thereafter. Clarifications to queries will be uploaded one-procurement portal as corrigendum.
- b) The responses shall be shared via uploading the corrigendum on e-procurement. It will be the bidder's responsibility to collect the responses. Non-attendance at the Pre-Bid Conference will not be a cause for disqualification of a Bidder. The queries shall necessarily be submitted strictly in the following format in editable **Xls only**. **Queries in PDF format would not be accepted.**

| S. NO | Page number | RFP Section Number | Section heading | Point of clarification | Justification for changes suggested |
|-------|-------------|--------------------|-----------------|------------------------|-------------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |

PPHC shall not be responsible for ensuring that the bidders' queries have been received and / or addressed by them. Any requests for clarifications after the indicated date and time may not be entertained by PPHC.

NOTE: In case of queries about technical specifications, Bidder will have to submit the undertaking from the OEMs, along with their queries, that none of their product's portfolio is complying with the technical specifications taken in the RFP. Queries w.r.t. technical specifications without OEM's undertaking will not be entertained.

- c) To assist in the examination, evaluation, comparison and qualification of the Bids, the bid evaluation committee of the PPHC may, at its discretion, may ask any bidder for a clarification regarding its Bid. The committee's request for clarification and the response of the bidder shall be through the e-mail.
- d) Any clarification submitted by a bidder regarding its Bid that is not in response to a request by the committee shall not be considered.
- e) No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the committee in the evaluation of the financial Bids.
- f) No substantive change to qualification information or to a submission, including changes aimed at making an unqualified bidder, qualified or an unresponsive submission, responsive shall be sought, offered, or permitted.
- g) PPHC reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors.

2.4.2 Amendment of Bidding Documents

- a) PPHC may modify the bidding documents by issuing add end a as deemed fit.
- b) Any addendum/corrigendum & communication shall be part of the DNIT document.

2.5 Bid fee.

The Bidder will download the RFP document(s) from the website <https://eproc.punjab.gov.in>. The bid fee if any of the RFP document must be submitted along with the Bids.

2.5.1 Earnest Money Deposit (EMD)

- i. Bidders must pay the Earnest Money Deposit (EMD) through online mode. EMD can also be paid in form of Bank Guarantee in favor of "Punjab Police Housing Corporation Ltd. S.A.S. Nagar" issued by any scheduled / nationalized bank, valid for 90 days from the last date of bid submission. The bidder must deposit original BG 24 hours before opening of PQ/ Technical bid. EMD deposited by the bidder shall not bear any interest.
- ii. EMD of unsuccessful bidders shall be refunded online through e-procurement portal after issuance of LoA to the L1bidder (By default)
- iii. The EMD received in the shape of BG in physical mode shall be refunded after issuance of LoA to the L1bidder.
- iv. The Tender Form Fee & EMD in any shape other than described above shall not be accepted.
- v. Any bid not accompanied with an acceptable Earnest Money deposit (EMD) and not secured as indicated in RFP, shall be rejected by the PPHC under non-responsive clause.
- vi. The Bid Security of the successful Bidders shall be returned after the receipt of Performance Security and Agreement signing for the project.

The Bid Security may be forfeited: -

If the Bidder withdraws the Bid after Bid opening during the period of Bid validity If the Bidder does not accept the correction of the Bid Price, as per the RFP.

or

In the case of a successful Bidder, if the Bidder fails within the specified time limit to: -

- a. Sign the Agreement; or
- b. Furnish the required Performance Security.

In addition to submission of Performance Security, 5%amount from each bill will also be retained as additional security.

2.6 Bidder's Authorized Signatory

The Bid document should be accompanied by an appropriate board resolution or power of attorney in the name of an authorized signatory of the Bidder stating that he/she is authorized to execute documents and to undertake any activity associated with the Bidder's bid submission.

2.7 Language

The Bid document should be filled by the Bidder in English language only. If any supporting documents submitted are in any other language other than English, translation of the same in English language should be duly attested by the Bidders. For purposes of bid evaluation, the English translation shall govern.

2.8 Downloadability/ Visibility of the Uploaded Document

The bidder shall assure that the document uploaded on the e-procurement portal is clearly visible and downloadable.

2.9 Format and Numbering of the Uploaded Document

PFD documents should be searchable format. The bidder shall ensure that the documents uploaded are correctly numbered so that any specific document can be easily and quickly found using the appropriate serial/page no. All documents shall only be uploaded in the formats mentioned in e-Proc portal. The unsuccessful opening or downloadability of documents which are uploaded in any format other than those mentioned above shall not be entitled for any claim whatsoever. If the uploaded bid document by bidder is not opening or downloadable by the purchaser, then it will not be considered for bid evaluation.

2.10 Bid Preparation Costs

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

2.11 Issues in Uploading Document Due to Internet Connectivity

No claims shall be entertained owing to issues of internet connectivity. The bidders are advised to upload the bid online well in advance of the deadline to avoid difficulties.

2.12 Extension of Deadline in Event of Server Downtime

In the event of the servers of the web site being down continuously for more than 2 hours before the deadline, the timeline for bid submission shall automatically be extended to a specified time on the next working day.

2.13 Submission of Bid

Bidders are required to submit the bid and required documents in online in the eProc portal. The bid document should be duly sealed and signed.

- a) Bidders should submit their responses as per the formats given in this RFP.
- b) Commercial Bid (Price Bid) shall be submitted ONLY through online mode.
- c) It should be noted that except the online Commercial Bid (Price Bid), no other envelope/document shall contain any information/document relating to Commercial Bid (Price Bid) in the event of any such occurrence, such bids will be summarily rejected.
- d) All pages of the Bid, except for the Bid Security, and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder.
- e) All the pages of the Bid must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bidder's Bid.

- f) The Bid shall contain no interlineations or overwriting, except as necessary to correct errors made by the Bidder itself. Any such corrections must be initialed by the authorized signatory of the Bidder.
- g) Only documents uploaded online will be considered for evaluations.
- h) The bids submitted by fax/e-mail/by hand other than online submission will be outrightly rejected.
- i) Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall be returned unopened.
- j) The Purchaser shall not be responsible for any delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.
- k) The Purchaser reserves the right to modify and amend any of the above-stipulated condition/criterion depending upon project priorities vis-à-vis urgent commitments.

2.14 Conflict of Interest

Bidder shall not have a conflict of interest that may affect the Bidding Process or the Solution delivery (the "Conflict of Interest"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Purchaser shall forfeit and appropriate the EMD, if available, and as mutually agreed genuine pre-estimated compensation and damages payable to the Purchaser for, inter alia, the time, cost and effort of the Purchaser including consideration of such Bidder's Bid, without prejudice to any other right or remedy that may be available to the Purchaser hereunder or otherwise.

The Purchaser requires that the System Integrator provides solutions which always hold the Purchaser's interest's paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The System Integrator shall not accept or engage in any assignment that would conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Purchaser.

Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:

- a) The Bidder or its Associates (or any constituent thereof) and any other Bidder, or its Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of a Bidder, or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, or Associate, as the case may be) in the other Bidder, or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:
 - i. Where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-

- clause if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or
- ii. A constituent of such Bidder is also a constituent of another Bidder; or
 - iii. Such a Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or
 - iv. such a Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's' information about this RFP, or to influence the Bid of either or each of the other Bidder; or
 - v. There is a conflict among this and other software solution and services assignments of the Bidder (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the System Integrator will depend on the circumstances of each case. While providing software implementation and related solutions to the Purchaser for this assignment, the System Integrator shall not take up any assignment that by its nature will result in conflict with the present assignment; or
 - vi. A firm hired to provide software solution and services for the implementation of a project, and its Consortium Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project.
- b) A Bidder eventually appointed to implement the Solutions for this Project, its Associates, affiliates, shall be disqualified from subsequently providing goods or works or services related to the construction and operation of the same Project and any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 12 months from the completion of this assignment; provided further that this restriction shall not apply to software solutions delivered to the Purchaser in continuation of this systems implementation or to any subsequent systems implementation executed for the Purchaser in accordance with the rules of the Purchaser.

2.15 Right to terminate the process

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

The Purchaser also reserves its right to vary, modify, revise, amend or change any of the terms and conditions of the Bid before submission. The decision regarding the acceptance or rejection of the bid by Purchaser will be full and final.

Section 3: Pre-Qualification & Technical Evaluation

3.1 BID Evaluation Instruction

3.1.1 Bid Evaluation process

- a) The Department will constitute a Bid Evaluation Committee to evaluate the responses of the Bidders.
- b) The Bid Evaluation Committee constituted by the Department shall evaluate the responses to the RFP and all supporting documents / documentary evidence. Inability of a Bidder to submit requisite supporting documents / documentary evidence may lead to the Bidder's Bid being declared non-responsive and disqualified.
- c) The decision of the Bid Evaluation Committee in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of negotiation/ discussion with the Bid Evaluation Committee.
- d) The Bid Evaluation Committee may ask for clarifications. All such clarifications will be done via electronic means only.
- e) The Bid Evaluation Committee reserves the right to reject any or all Bids based on any deviations contained in them.
- f) Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.

3.1.2 Bid Opening Process

- a) The Bidders or their representative may attend the opening of Technical/ financial bids by online or physical attendance.
- b) The representatives of the Bidders are advised to carry an identity card or a letter of authority from the Bidding entity to identify their bonafide representatives for attending the opening of the Bid.
- c) Purchaser reserves the right to finalize the bid in case a single bid is received.
- d) The bid shall be opened in the following manner:

Step 1:

- RFP Document Fee & EMD
- Pre-Qualification BID
- Technical bid (Technical Form Compliance Check)

Step 2:

- Commercial bid.

After evaluation of Prequalification, the bidders found qualified in pre-qualification criteria will be shortlisted for Demonstration and PoC. After Demonstration and PoC, Financial bids of only qualified bidders in technical evaluation process shall be opened.

3.1.3 Bid validity.

The offer submitted by the Bidders should be valid for minimum period of 90 days from the last date of submission of the Bid.

3.1.4 Bid Evaluation:

- a) Initial Bid scrutiny will be held and to confirm that Bids do not suffer from the infirmities detailed below. The Bid will be treated as non-responsive if a Bid is found to have been:
- Submitted in manner not conforming with the manner specified in the RFP document.
 - Submitted without appropriate EMD as prescribed herein.
 - Received without the appropriate power of attorney.
 - Containing subjective/ incomplete information.
 - Submitted without the documents requested in the checklist.
 - non-compliant with any of the clauses stipulated in the RFP.
 - Having lesser than the prescribed validity period. The EMD of all non-responsive bids shall be returned to the bidders.
- b) All responsive bids will be considered for further processing as below.

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

3.2 Criteria for Evaluation

3.2.1 Pre-Qualification (PQ) Criteria

Please note that the Bidders should submit all the documents confirming the qualification as per the eligibility criteria mentioned. The bid is liable to be rejected without submission of relevant documents. The bidder should meet the Qualifying Requirements as mentioned below:

| Sl. No. | Checklist Description | Item | Criteria | Proof/Documents Required |
|---------|----------------------------------|------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Bidder company Registration | | The Company should be registered under Companies Act, 1956, Govt. of India in last three years. | Valid copy of Certificate of incorporation and Registration Certificates. GST and PAN/TAN number |
| 2. | Incorporation Certificate | | Bidder should be an established System Integrator and should have been in the business of IT/ITES | Valid copy of Certificate of incorporation and Registration Certificates. Valid copy of GST certificate Valid copy of PAN Card |
| 3. | Bidder's Average Annual Turnover | | Average annual Turnover of the Bidder shall not be less than Rs. 10 Crores during the last three | CA Certificate with CA's Registration Number/ Seal for annual turnover. Copy of the |

| Sl. No. | Checklist Description | Item | Criteria | Proof/Documents Required |
|---------|-----------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | financial years. (FY 2021-22, FY 2022-23, FY 2023-24) from IT/ ITES in State/ Central Government/ PSU/ Nationalized Banks | audited profit and loss account of the company-showing turnover of the company during last three years. |
| 4. | Non-Blacklisting | | The bidder shall not be under a Declaration of Ineligibility for corrupt or fraudulent practices or blacklisted with any of the Government agencies. | Self-Declaration in this regard by the authorized signatory of the bidder. |
| 5. | Similar Experience | | <p>The Bidder should have successfully completed 1 similar project of 7.50 Crores or 2 similar projects of 5.50 Crores or 3 similar Projects of 3.75 Crores each for Government/ PSU/ Nationalized Bank.</p> <p>Definition of Similar Project: IP CCTV Surveillance project with 300 IP cameras, wired / wireless network, UPS, connectivity, centralized monitoring solution.</p> <p>Experience of having successfully completed similar works during last 3 years ending last day of month before the one in which applications are invited</p> | <p>Client certificate/FAT/Go-Live certificate and mandatory Client satisfactory performance certificate from competent authority with contact details, dates, project name, camera quantity, project details etc. of mentioned for validation. Combined value of multiple work order issued on same MSA shall be considered as one similar project.</p> <p>PO/ Work order with clear project cost to be submitted along with the Completion/ FAT/ Go-live Certificate. PO/ Work order without Completion/ FAT/ Go-live shall not be acceptable</p> |
| 7. | Net worth | | The Bidder net worth should be positive | CA Certificate with CA's Registration Number/ Seal |
| 8. | Certification | | The bidder shall have ISO 9001 :2015 | Copy of valid certificate as on date of bid submission to be provided. |
| 9. | Information technology business/ IT System Integration business | | Self-Certification of being in the Information Technology business/ IT System Integration for the last 5 years duly attested by company secretary/charted accountant should be attached. | Self-Certification of being in the Information Technology business/ IT System Integration for the last 5 years duly attested by company secretary/charted accountant should be attached. |
| 10. | Manufacturer Authorization | | The bidder should have direct authorization from the Original Equipment Manufacturer (OEM) for SITC and supporting the equipment offered. Mandatory to submit MAF from OEMs against | Refer Form: - "Manufacturers' Authorization Form" for the MAF and complete the associated table provided with the form. – Annexure Q. If the MAF is not in RFP specified format, then Department |

| Sl. No. | Checklist Description | Item | Criteria | Proof/Documents Required |
|---------|-------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | the following item along with compliance of technical Specification in this RFP - Cameras -AI Based Video Analytics Software - VMS - Server - Switches - Rack - UPS | may reject the bid. |
| 11. | The Regulatory Approvals/ Certifications: | | The Regulatory Approvals/ Certifications (BIS, STQC, RoHS etc.) are required to be provided before supply of material. | Proof of ongoing testing/ application of OEM to the concerned authorities/ Labs is to be submitted along with Bid. The bidder and OEM have to give undertaking, as per Annex S & T (Clause 7.20 & 7.21), that the offered CCTV cameras are complied with the technical specifications mentioned in the DNIT and the material will be delivered at site as per timeline given in the DNIT and the copy of various certifications i.e. BIS, STQC, RoHS etc. will be provided before the dispatch of the material |
| 12. | Proof of Concept | | Proof of Concept is required for offered solution. | 1. Successful Demonstration of offered solution within the threshold range of the Sensor. 2. Successful Demonstration of integration of offered solution and its application software. 3. Successful Demonstration of functionality of the offered solution, as per requirement of RFP. |

* During the Demonstration/Proof-of-Concept (PoC) at technical evaluation stage, the Technical Committee will give special attention to verify the quality, robustness and appropriateness of the proposed solution for field scenario/conditions. If any brand / product are found un-suitable, Bidder may get dis-qualified or may be asked to replace the product with better brands meeting the tender requirements, without any change in commercial bid.

With regards to above table, OEMs will certify the installation base and the project experience. This certificate shall be issued through the Global Headquarters and attested by the Indian office. Authority shall verify the claim of OEMs by using publicly available reports, in case there is any doubt of gross negligence. Decision of Tendering Authority shall be final and binding upon the Bidder and OEM.

Adequate supporting documents pertaining to the above points, along with a summary compliance table, should be submitted in the technical proposal by the Bidder.

The department may take PoC on the any of the followings test cases:

- Camera Tempering
- Left Baggage/ Abandoned Baggage
- Scene Change detection
- Motion Detection
- Enter and Exit Detection
- Stopping Detection
- Objects Counting
- Crowd detection
- Object throwing detection
- Line Cross detection/ Tripwire
- Trespass
- PTZ based object tracking
- Scene Change detection
- Motion Detection
- ANPR (Automatic Number Plate Recognition) of vehicle entering/ exiting from prison gate
- Violence Detection
- Fire Detection
- Access Control
- Raising alarm/ alert if someone is hanging things from ceiling.
- Identification of object/ Prisoner escaping jail by scaling wall or climbing over razor wire.
- If someone is try to throw something from outside/ or inside of perimeter wall including trajectory and place of throw and velocity to identify the vulnerable place along with heat map an pointing PTZ cameras with required PAN tilt and zoom level.

The all above mentioned features shall be part of project.

3.3 Preference

3.3.1 Technical Evaluation Scoring Matrix

The Bidder must comply with all the Technical Specifications compliance matrix. Failure to comply with all the specifications will render the bidder disqualified in the Technical Evaluation.

3.3.2 Selection Criteria

Commercial bids of only those bidders shall be evaluated who comply with PQ all the specifications as depicted in the RFP. The bidder who has submitted the lowest commercial bid shall be selected as the L1 and shall be called for further process leading to the award of contract.

3.3.3 Commercial Bid Evaluation

- a. Evaluation methodology is for this RFP is based on L1
- b. The Commercial Bids of technically qualified Bidders will be opened on the prescribed date & time in the presence of Bidder representatives and bid evaluation committee.
- c. If a firm quotes NIL charges / consideration, the bid shall be treated as unresponsive and will not be considered.

- d. Only fixed price commercial bids indicating total prices for all the deliverables/services specified in this bid document will be considered.
- e. The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.
- f. Any conditional bid would be rejected.
- g. Incomplete Price bid will be rejected.
- h. Price Bids that do not conform to the Tender's price bid format will be rejected
- i. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".
- j. Errors & Discrepancies: Any errors and discrepancies in the information given in financial and technical bids, calculations, mismatch in rates and costs etc. will lead to rejection of the bid.
- k. Each bidder should offer/ quote single make and models against all items. Bidder quoting multiple make and models in their technical bid will lead to rejection. All the switches shall be from the same OEM.
- l. Information provided in other than the format mentioned will not be considered for evaluation.
- m. The bid price should be inclusive of all taxes and levies and should be in Indian Rupees.

3.4 Award of Contract

The Bidder, who has submitted the lowest Commercial bid, shall be selected as the L1 and shall be called for further process leading to the award of the assignment.

3.4.1 Notification of Award

- a) Department will notify the successful bidder in writing (LoI) thereby indicating that its Bid has been accepted.
- b) The notification of award will constitute the formation of the contract upon the successful furnishing of Performance Bank Guarantee (5% of the project Value).

3.4.2 Right to Accept Any Bid and To Reject Any or All Bid(s)

The Purchaser reserves the right to accept or reject any Bid, and to annul the Bidding Process / public procurement process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for purchaser action.

3.4.3 Notification of Award

Prior to the expiration of the validity period, Department will notify the successful bidder in the notified website or email, that its Bid has been accepted. In case the tendering process /public procurement process has not been completed within the stipulated period, Department, may like to request the bidders to extend the validity period of the bid. The notification of award will constitute the formation of the contract. Upon the successful bidder's furnishing of Performance Bank Guarantee, Department will return the EMD to the successful bidder after submission of the Performance Bank Guarantee.

3.4.4 Award criteria

Post evaluation process, Purchaser will award the Contract to the bidder whose proposal has been determined to be technically responsive to the requirements of the RFP and has confirmed all items in the Technical Specification Form and is L1 in the commercial evaluation process and this bidder will be considered as successful bidder and henceforth referred as 'System Integrator'

3.5 Performance Bank Guarantee (PBG)

- a) PPHC shall take Performance Bank Guarantee (PBG) amounting to 5% of the entire contract value (including taxes & levies) as retention security by Contractor until 3 months beyond the warranty/defect liability period that shall cover removal of defects, imperfections, or taking remedial measures in the work executed. This retention shall be inclusive of the initial bid security deposited by the bidder.
- b) 50% of the PBG amount shall be released to the Contractor after three months of completion of the implementation of the Project / Work (Go-Live) as certified satisfactory by the Engineer with respect to removal of all defects, imperfections, short comings and taking remedial measures, that may be necessary and after recording of final measurements of work done, for which the certificate of the Engineer would be conclusive. A fresh PBG of 50% of Contract value shall be submitted by contractor prior to release of this amount, which shall be released after three months of expiry of Warranty/Defects Liability Period (Operations & comprehensive Maintenance) and after the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- c) Punjab Police Housing Corporation Department may invoke the Performance Guarantee in the event of a material breach by the successful Bidder leading to termination for material breach.

3.6 Signing of Contract

Post submission of Performance Guarantee by the successful Bidder, Purchaser shall enter into a contract, incorporating all clauses, pre-bid clarifications and the proposal of the Bidder between Purchaser and the successful Bidder. The Legal Agreement (Master Service Agreement) would contain all the terms and conditions mentioned in this RFP document and is provided separately as a template. Purchaser shall have the right to annul the award in case there is a delay of more than 30 days in signing of contract, for reasons attributable to the successful Bidder. In this case, the contract would be awarded to the next responsive Bidder.

3.7 Change Request (CR)

The change request will be applicable incase the purchaser wants to enhance the scope of work/engagement of additional resources, for which the price is already discovered. It is to be noted that the Change Request (CR) will be estimated based on the man-month effort mutually agreed by the purchaser & the selected bidder at the discovered price. The total Change Request is capped at maximum 25% of the total contract value.

3.8 Failure to agree with terms and condition of RFP

Failure of the successful bidder to agree with the Draft Legal Agreement and Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event Department may award the contract to the next best value bidder or call for new Bid from the interested bidders.

3.9 Laws Governing the Contract

This contract shall be governed and interpreted in accordance with the laws of India and the rules of Punjab Government. The place where the contract is to be performed shall have exclusive jurisdiction over all matters arising out of or in respect of the contract.

3.10 Changes in the Quantities

- i. PPHC shall have the right to make any variations, alterations to the work or substitutions for the original quantities, specifications, drawings, designs and instructions that may appear to be necessary or advisable during the progress of the work, and the Contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing, signed by the Engineer. Such alterations/ additions/substitutions shall not invalidate the contract and shall be carried out by the Contractor on the same conditions in all respect on which he agreed to do the main work. The time of completion of the work shall be extended in the proportion that the altered, additional or substituted works bears to the original contract work and the certificate of the Engineer shall be conclusive as to such proportion.
- ii. In case quantities of DNIT/ exceed beyond 10% then the payment shall be made at the rate decided by the MD, PPHC but it would not be above quoted rate.
- iii. Any item not existing in this DNIT but actually executed at site as per CSR item then it shall be paid at the same rate at which the work has been allotted to the agency but in any case not above the CSR.
- iv. NS item as approved by the Managing Director, PPHC based on prevailing market rates at the time of execution.
- v. If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any composite rate in the Bill of Quantities.

3.11 Variations:

- i. All Variations shall be included in updated Programs produced by the Contractor.
- ii. Items of bill of quantity may vary by +/- 25% at the same rates and terms & conditions of the agreement. Completion schedule shall vary accordingly as per PPHC.

3.12 Payments for Variations:

- i. The Contractor shall provide the Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.
- ii. If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the quantity of work above the limit stated in Sub Clause 3.10 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work.
- iii. If the Contractor's quotation is unreasonable, the Engineer may order the Variation and make a

change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's cost.

- iv. If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- v. The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

3.13 Dispute Redressal Mechanism & Arbitration

If any dispute or differences of any kind what-so-ever arise between the PPHC/its authorized representatives and the System Integrator(SI),in connection with or arising out of this contract or the execution of work, these shall be resolved as under:-

Internal Escalation:

Whether before its commencement or during the progress of Project or after the termination, abandonment or breach of the contract, the dispute shall in the first instance supported with complete documents and further documents, if any, required by him, be referred for settlement to the Executive Engineer (PPHC) of the work and he shall, within a period of sixty (60) days after being requested in writing by the System Integrator (SI) to do so, convey his decision to the System Integrator (SI).

If the System Integrator (SI) is not satisfied with the decision of Executive Engineer (PPHC) or he does not convey his decision within a period of sixty (60) days then he shall make an appeal to the Chief Engineer, PPHC whose decision shall be final and binding upon the System Integrator(SI).

However, in case the work is already in process, the System Integrator (SI) shall proceed with the execution of the works, including maintenance thereof, pending receipt of the decision of the Executive Engineer/ Chief Engineer, as the case may be as afore said, with all due diligence.

Arbitration:

In case dispute between the PPHC and the SI, which has not been settled amicably, the SI can request the Managing Director, PPHC to refer the dispute for Arbitration under Arbitration and Conciliation Act, 1996. Such disputes shall be referred to the Arbitrator nominated by the PPHC. However, the System Integrator may request for changing the arbitrator, which shall be appointed by Hon'ble Punjab and Haryana High Court. The Indian Arbitration and Conciliation Act, 1996 and any statutory modification or reenactment thereof, shall apply to the arbitration proceedings. Arbitration proceedings will be held at Chandigarh/ S.A.S. Nagar, Punjab. The decision of the arbitrator shall be final and binding upon both the parties. All arbitration awards shall be in writing and shall state the reasons for the award.

3.14 Refund of Security Deposit

50% of the Security deducted from the bills shall be refunded to the Contractor after three months of completion of the implementation of the Project / Work (Go-Live) and balance 50% of the same will be refunded after three months of expiry of Warranty/ Defects Liability Period (Operations & Comprehensive Maintenance) and after the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.

Section 4: Terms of Reference (TOR)

4.1 Purpose

Punjab Prisons Department sought to upgrade their video surveillance solution to improve image quality and retention time. They also wanted to maximize field of view to deliver a more forceful and expansive – yet, less intrusive – solution.

4.1.1 Name of Jails to be provided with Artificial Intelligence based CCTV Surveillance System:

- i) Maximum Security Jail Nabha
- ii) Sub Jail Barnala
- iii) Sub Jail Moga
- iv) Sub Jail Patti
- v) Sub Jail Malerkotla
- vi) Sub Jail Fazilka
- vii) Borstal Jail Ludhiana
- viii) Women Jail Ludhiana
- ix) Women Jail Bathinda
- x) District Jail Mansa
- xi) Sub Jail Pathankot

4.1.2 Following are the functional objectives identified for the proposed system.

1) **24X7 Monitoring of Prisons premises (at respective prison level) through AI based CCTV Surveillance-** The primary objective is to have a complete coverage of the area with an extensive network of CCTV cameras. It is desired that the entire prison premises should not have any blind spots. However, there are practical and operational challenges to having zero blind spots, the same can be addressed during installation of the cameras.

2) **Perimeter Protection:** The most of the Jails are surrounded by densely populated areas. The Jails authority are faced with a herculean task of maintaining the integrity of the wall which is breached at several places and from which anti-social elements throw substance into the jails and carry out their dubious activities. To add to this problem the road that runs adjacent to the wall is frequently used by people that come into the Jails and who wish to intrude into the prison premises. With complete coverage of jail perimeters with CCTV, it is envisaged that monitoring and management of jails and the activities can take place more effectively, efficiently and in a more coordinated manner. CCTVs are expected to become the extended arm for the security to help and take the burden of 24x7 manual guarding of the Jail premises.

4.2 Project Coverage

Punjab Police Housing Corporation wants to undertake an AI based CCTV Surveillance System to safeguard its premises from potential intruders, who pose threat to its safety. As part of a major program, Prison Department is in process of setting up and upgrading of Security Surveillance & CCTV system to international security standards. The scope of this detailed project report document is to survey the concerned Jail complex and establish the type and quantity of the physical security components, CCTV cameras, technical specifications and costing of the project. The objective of this exercise is to equip Punjab Prisons with an AI based modern physical security system.

The system implementation is envisioned to comprise of Perimeter Security System, Video Management System, Screening System & Video Monitoring System and integration of various

technologies, Local Area Network, Facility Management Services and Comprehensive Maintenance of the System for a period of 1+3 years.

The concerned Jail premises needed state-of-the-art AI based surveillance system comprising of high definition IP cameras, video management and analytics software. It will help to ensure highly effective physical security surveillance operations with accurate flow of information and communication. The IP based surveillance camera should work with OFC/UTP & Radio based network. This solution is required for a high security environment. Hence, high availability of the system is extremely important. The solution provided should ensure that video storage could be viewed at the monitoring and control room at Jail premises. The Inception Report is intended to provide the survey-based design of the installation of Artificial based CCTV surveillance components in Jal premises.

For the successful commissioning & operationalization of the cameras and to provide the video feeds to Central Monitoring Center, electricity should be provided to the cameras through the aggregation point. Since this component has dependency on approval from other agencies, it is recommended that SI plans this requirement well in advance & submits the application to the concerned electricity distribution agency.

4.3 Main Locations to be covered with AI based CCTV system: Outside Area, Deodi, Boundary wall and Towers, Entry of barracks, Gurudwara, Mandir, Backside Area, Main Entry, Chakkar (As per requirement at site).

Please note that the locations are purely tentative in nature, locations shall be finalized before installation with appointed Jail Department Representative/ Nodal official and depends on the quantity of cameras provisioned for the concerned jail.

4.4 Stakeholders of the Project

Considering the scale, volume and visible impact of this project, and the number of stakeholders involved, it was imperative to interact regularly with the key Stakeholders for in-depth assessment of the needs and requirements of the entire project life cycle.

Following stakeholders were identified and shall be consulted for designing the AL based CCTV surveillance system for Punjab Prison.

Identification of stakeholders and description of their roles and responsibilities are described in below table along with level of influence and proposed engagement/ communication strategy.

| Stakeholder Group | Composition | Key Roles and Responsibilities |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Punjab Police Housing Corporation. (PPHC) | <ul style="list-style-type: none"> Chief Engineer- PPHC Executive Engineer- PPHC Assistant Engineer-PPHC Junior Engineer- PPHC | <ul style="list-style-type: none"> Policy directions and guidance for successful execution of the Project. Overseeing utilization of funds Operational responsibility for the Project. Sanction for various project components, as may be specified, including the Hardware/Software procurement. Approval of various Project Components and Functionalities to be covered in the Project. |

| Stakeholder Group | Composition | Key Roles and Responsibilities |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Review the progress of the Project. |
| Punjab Prison Department | <ul style="list-style-type: none"> Superintendent Jail Deputy Superintendent Jail | <ul style="list-style-type: none"> Creating a supporting environment for the success of the project. Provide input for proper placing of projects components. Project Approval. Providing manpower for monitoring and control room |
| Implementation Agency/ System Integrator/ Vendor | <ul style="list-style-type: none"> To be selected through open RFP process. | <ul style="list-style-type: none"> Procurement, installation and commissioning of hardware. System Administration and Support Training. Utilization Statements/ Progress Reports Helpdesk Support. Surveillance System Maintenance. Awareness and Sensitization with operation level training. |

4.5 Approval & Deliverables

| Sly no | Document/ deliverable | Signoff authority |
|--------|---------------------------|-------------------|
| 1. | Project Plan | PPHC |
| 2. | Site Survey report | PPHC |
| 3. | Approved Bill of Material | PPHC |
| 4. | Proof of Delivery | PPHC |
| 5. | Installation certificates | PPHC |
| 6. | Technical Architecture | PPHC |

| | | |
|-----|--------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 7. | SLA reporting | PPHC |
| 8. | Project MIS | PPHC |
| 9. | SOPs for site preparation, electrical and civil works, permission for digging, storeroom provisioning and safety of equipment. | PPHC |
| 10. | Resource attendance | Prison officials and or PPHC |

4.6 Scope of Work (Site Survey, Design, Supply, Installation and Commissioning):

The Bidder shall be responsible to design a state of art Surveillance System which shall be reliable, scalable and as per industry standard. The bidder shall deliver and implement the technologies in conjunction with best practice guidelines & industry standards. For better redundancy point of view, Ring topology will be preferred. However, final decision will be taken by Punjab Police Housing Corporation or his nominated agency.

The bidder will do site survey, design, supply, install, commission, integrate and do the maintenance of Surveillance System & other IT Infrastructure as per requirement inconformity with Schedule of Requirement/ BOM (any subset of items & quantities), Technical Specifications and terms & conditions of the tender. The bidder will ensure to install the supplied systems and make it operational on the network and provide comprehensive warranty for Three years.

Site Survey to finalize the Network Diagram and the Bill of Materials of the Punjab Prison Surveillance System. The bidder will carry out the sites survey, prepare the drawings, laying & cable route plans, CMC locations, node placement, CCTV placement, junction box placement etc. The bidder will try & reuse the item available to the extent possible subject to its functionality & feasibility.

The bidder will submit project plan including Pert chart after consultation with PPHC. This plan should be in line with project plan submitted along with Bid document. The Bidder must ensure that during the execution of the project they do not damage or disrupt the existing services under and above the ground.

The Bidder must comply with the security policy of Punjab Police Housing Corporation and non-disclosure agreement.

The methodology of conduiting & cabling and installation work, to be adopted, has to ensure minimum damage to the existing finish and no loss to the aesthetic beauty of the floors & Walls. Any damage to the existing flooring / walls etc. shall be made good by the bidder.

Bidder shall be responsible for using existing CAT6, Fiber or electrical cabling done in the prison

The bidder will ensure the availability of services from professionally qualified team during implementation of the project and to provide the required on-site warranty & maintenance for a period of Three years.

The Bidder will be liable for any hardware and software up-gradation, without any extra cost, both during warranty and maintenance.

On completion of the work the bidder shall submit the detailed diagram/drawings & documentation of the project to the Police Head Quarter, Punjab and obtain a duly certified completion certificate from the authority, which will be submitted to payment authority along with the bills.

During implementation and post implementation support period, the employee of the bidder will carry a company ID card.

Supply of active and passive equipment at the site.

Installation and integration of all equipment including hardware and software. The bidder will ensure smooth integration of the offered equipment with any existing equipment/network at User sites/locations specified.

Commissioning of the network at User sites/locations specified.

Acceptance testing of the Active and Passive equipment at User sites/locations specified.

It is a trunky project so anything which is required for integration point of view such as connector, cable, camera mounting clamps etc. bidder shall be responsible for supply. Bidder may consider that requirement and may quote under the head miscellaneous items.

It is bidders' responsibility to install open source NMC for the jail to monitor the uptime of the system. If required, Bidder needs to provision required hardware for NMS in their commercials. No additional cost shall be paid to bidder for this NMS and hardware. The successful bidder must submit system uptime report on monthly basis.

4.7 Detailed Scope of Work

The selected Systems Integrator (SI) shall have the overall responsibility to concerned Jails. SI will have to maintain the implemented system for a period of three (3) years from the date of successful Go-Live of the project. The scope of work of the project includes setting up of an AI Based CCTV Surveillance for prisons. The scope of SI can be divided in following broad aspects.

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

- Perimeter CCTV Surveillance
- General surveillance system
- CCTV Monitor and Control Center
- Dedicated OFC backbone network for CCTV surveillance system and RF Module

NOTE: The existing IP cameras in the Jail Complexes will also to be integrated with the proposed AI based CCTV Surveillance system in the concerned Jail, if desired by the Jail authorities.

4.8 Site Survey

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

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

The Engineer-in-charge will validate and approve the above documents and bill of material with inputs from PPHC and other stakeholders. Based on site survey quantity of all active and passive materials may vary. Payment shall be made as per actual.

4.9 Scope of Supply

- The successful bidder shall arrange all the material as per final BoM and complying with the functional and technical specification in this RFP. All the material shall be arranged at the jail and SI shall send request to PPHC for inspection. The request letter should enclose a list of all the materials with Make, Model, Serial number and Part code number for each item. PPHC / appointed PMU shall inspect all material and shall issue the inspection Report.
- Quality inspection of critical items.
- Supply of all components at Punjab Prisons and safe keeping of the items at Punjab Prison premises with help from the Punjab Police Housing Corporation and Jail authority till successful installation and commissioning as per RFP and Final Agreement within specified timeline.

4.10 Installation, Testing & Configuration

- The installation shall be tested for at least 15 days before commissioning. Such acceptance testing shall be carried out by the department directly and/or through third party. Completion certificate shall be issued only after such acceptance testing is found to be fully compliant with the specifications and directions of the Engineer-in-charge. The decision of the Engineer-in-charge and/or the accepting authority in the matter shall be final and binding.
- Physical installation and powering of all supplied components as per approved layout.
- Complete configuration and integration of all the components on the network.
- Any structure, permanent or temporary, dismantled or destroyed during the execution of the work shall be refilled/ remade or restored to its previous condition by the vendor at its own cost.
- Bidders are required to note that while executing the project, the successful bidder shall finalize the actual place for placement of cameras at each building and fixation of height & angle for the cameras would be done carefully to ensure optimum impact. During the course of project, if some camera requires change of FOV, it should be done by SI without any extra cost, in consultation with Police officials.
- Note: Bidder not allowed to submit variation bid. Any change in scope of work finalized at the stage of contract finalization or after shall be dealt with in the ambit of the principles mentioned in the RFP.
- PPHC and other stakeholders shall extend necessary support to SI (in terms of documentations, meetings with concerned authorities, etc.) for getting the approvals / licenses from concerned authorities, if all the necessary requirements are in place.
- The SI shall install, configure the IP cameras, Recording system, Rack, switch, servers UPS etc. at the identified locations and then undertake necessary work towards their commissioning. SI should use the industry best practice while positioning and mounting the cameras. Some of the check-points which need to be adhered by the SI while installing / commissioning cameras are as follows:

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

4.11 CCTV Monitoring & Control Room

- CCTV control room is to be set up in Administrative block of the Jails
- It will have typically 1 monitoring and controlling workstations which will be fitted with one LED monitors for monitoring and control of cameras and other access control systems.
- Additionally, the room will be fitted with a high-definition LED display for viewing and controlling the cameras and other system more precisely.

4.12 Total Bill of Material

A) IMPLEMENTATION PHASE (INCLUSINE OF FREE ONSITE WARRANTY FOR ONE YEAR FROM THE DATE OF GO-LIVE):

| S. No. | Description of Item | Unit | Total Qty |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| A | Cameras and other field items:- | | |
| 1 | SITC of 4MP Bullet Camera for ANPR with mounting | Nos | 11 |
| 2 | SITC of 4MP Outdoor Bullet Camera varifocal lens with mounting | Nos | 508 |
| 3 | SITC of 2MP Dome Camera with mounting | Nos | 267 |
| 4 | SITC of 2MP Outdoor IR PTZ cameras with 300 Meter IR Range and Edge Analytics with mountings. | Nos | 9 |
| 5 | 8 port POE Switch with 2SFP port fully loaded | Nos | 100 |
| 6 | SITC of 24 port POE Switch with 2SFP port fully loaded | Nos | 24 |
| 7 | SITC of 15U Network Outdoor Rack | Nos | 114 |
| 8 | SITC of 1 KVA UPS with battery backup of 30 min. on full load (rack mount) | Nos | 114 |
| 9 | Supply and erection of 3-Stepped steel tubular swaged and welded pole (410-SP Mpa) of suitable length confirming to IS: 2713- (PART-II)-1980 (Steel tubes confirming to IS: 1161-1979, UTS 42 kgf/ Sq.mm) to fix up to a required planting depth below ground level in a hole of excavation about 45 cm dia. and suitable depth to fill up to 15 cm below G/L with 1:2:4 cement concrete mixture including painting of pole with two coats of approved aluminium paint as required:- | | |
| i | Overall length 8 metre, with planting depth 1.5 metre, length of sections 4.5 metre, 1.75 metre and 1.75 metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 139.7mm x 4.5mm, 114.3mm x 3.65mm and 88.9mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 101 kg. (410 SP-13) base Plate weight 7.5 kg. of size 12mm thick about 30 cm dia. | Nos | 24 |
| B | Backend IT Infrastructure at CMC | | |
| 1 | SITC of 24 Port Distribution Switch 1x24/10G SFP Ports all populated (fully loaded) | Nos. | 10 |
| 2 | SITC of VMS Server | Nos | |
| i | VMS Server with 40TB Usable Storage, configured in RAID 5 | Nos | 2 |
| ii | VMS Server with 60TB Usable Storage, configured in RAID 5 | Nos | 6 |
| iii | VMS Server with 90TB Usable Storage, configured in RAID 5 | Nos | 3 |
| 3 | SITC of VA Server, as per requirement of this project | Nos | 11 |
| 4 | SITC of 42 U Server Rack | Nos | 12 |
| 5 | SITC of OS, VM License, Database License | Lot | 11 |
| 6 | SITC of 24X7 Operational Full HD 55" LED Display with all mounting & connecting accessories | Nos | 14 |
| 7 | SITC of Monitoring Workstation with 1 number of 24" HD LED Monitor | Nos | 11 |
| 8 | SITC of Video Management Software Channel License, as per requirement of this project (For 11 Jails) | LOT | 1 |
| 9 | SITC of AI Based Video Analytics Software License, as per requirement of this project (For 11 Jails) | LOT | 1 |
| 10 | SITC of ANPR application and Channel License, as per requirement of this project | LOT | 11 |
| C | Active and Passive Network | | |
| 1 | Supply & Laying 12 Core Fiber Optics Cable (Armored) in existing PLB duct/ loose/ On surface, including splicing as required at site | Mtr | 11100 |
| 2 | Supply and laying of PLB HDPE Duct (40/33 mm) including trenching | Mtr | 9000 |

| S. No. | Description of Item | Unit | Total Qty |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| | underground/ chasing in wall and repairing/ saddling in case of on surface etc., as required at site | | |
| 3 | Supply and erection of Double Walled Corrugated (DWC) HDPE pipe to be laid 1mtr. below ground level including excavation placing the pipe in position and back filling with excavated soil etc. of size 50/38mm (Outer/ Inner dia.) | Mtr | 7150 |
| 4 | SITC of Outdoor Joint Closure/ Dome closure | Nos | 63 |
| 5 | SITC of UTP Patch Panel (24 Port Fully loaded) | Nos | 11 |
| 6 | SITC of Fiber LIU (48 Port fully loaded) | Nos | 9 |
| 7 | SITC Fiber LIU (12 Port fully loaded) | Nos | 107 |
| 8 | SITC of Single Mode Fiber Patch Cord armored (3M) | Nos | 439 |
| 9 | SITC of Armored Double Jacket UTP Cat 6 Cable | Mtr | 34200 |
| 10 | SITC of CAT6 Patch Cord 3 Meter | Nos | 115 |
| D | Power Backup at Central Monitoring & Control Room | | |
| 1 | SITC of 5 KVA 3Ph Online UPS and 30 Min Backup on full load | Nos | 11 |
| 2 | SITC of MCB DP 40 Amp with Sheet metal MCB Box Double Door & Copper Bus Bar Chamber 63Amp 4 Pole | Lot | 101 |
| 3 | SITC of Chemical Earthing with copper bounded 38mm pipe for CMC and Outdoor Racks, including pit with Cover, making connections to Racks with 8mm dia copper wire in heavy guage PVC pipe (Flushed) including boring, making trenches/ casing and repair of the same. | Nos | 136 |
| 4 | Supply and erection of PVC insulated Copper conductor Power Cables (3 x 4sqmm) | Mtr | 6830 |
| 5 | Supply and erection of PVC insulated aluminium armoured conductor 16Sqmm cable (4 core) | Mtr | 8180 |
| 6 | Supply and erection of PVC pipe ISI heavy 25mm dia On surface | Mtr | 16050 |

B) ANNUAL MAINTENANCE FOR 3 YEARS:

| | | | |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|---|-----|
| 1 | Annual Comprehensive maintenance of all components of AI based CCTV Surveillance system and allied equipment after expiry of one year warranty: | | |
| i | AMC for 1 st year after expiry of free warranty of one year | 1 | Job |
| ii | AMC for 2 nd year after expiry of free warranty of one year | 1 | Job |
| iii | AMC for 3 rd year after expiry of free warranty of one year | 1 | Job |

4.12.1 Bill of Material for all 11 Nos. Jails

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|----------|-----------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|------------|
| A | Cameras and other field items:- | | | | | | | | | | | | | |
| 1 | SITC of 4MP Bullet Camera for ANPR with mounting | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 2 | SITC of 4MP Outdoor Bullet Camera varifocal lens with mounting | Nos | 54 | 35 | 29 | 29 | 88 | 15 | 91 | 30 | 34 | 81 | 22 | 508 |
| 3 | SITC of 2MP Dome Camera with mounting | Nos | 11 | 30 | 40 | 14 | 26 | 20 | 34 | 24 | 23 | 39 | 6 | 267 |
| 4 | SITC of 2MP Outdoor IR PTZ cameras with 300 Meter IR Range and Edge Analytics with mountings. | Nos | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 9 |
| 5 | 8 port POE Switch with 2SFP port fully loaded | Nos | 10 | 10 | 9 | 7 | 17 | 1 | 24 | 6 | 8 | 8 | 0 | 100 |
| 6 | SITC of 24 port POE Switch with 2SFP port fully loaded | Nos | 3 | 1 | 2 | 1 | 4 | 1 | 1 | 2 | 1 | 6 | 2 | 24 |
| 7 | SITC of 15U Network Outdoor Rack | Nos | 13 | 10 | 10 | 7 | 20 | 1 | 24 | 7 | 8 | 13 | 1 | 114 |
| 8 | SITC of 1 KVA UPS with battery backup of 30 min. on full load (rack mount) | Nos | 13 | 10 | 10 | 7 | 20 | 1 | 24 | 7 | 8 | 13 | 1 | 114 |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|-----------|
| 9 | Supply and erection of 3-Stepped steel tubular swaged and welded pole (410-SP Mpa) of suitable length confirming to IS: 2713- (PART-II)-1980 (Steel tubes confirming to IS: 1161-1979, UTS 42 kgf/ Sq.mm) to fix up to a required planting depth below ground level in a hole of excavation about 45 cm dia. and suitable depth to fill up to 15 cm below G/L with 1:2:4 cement concrete mixture including painting of pole with two coats of approved aluminium paint as required:- | | | | | | | | | | | | | |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|-----------|
| i | Overall length 8 metre, with planting depth 1.5 metre, length of sections 4.5 metre, 1.75 metre and 1.75 metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 139.7mm x 4.5mm, 114.3mm x 3.65mm and 88.9mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 101 kg. (410 SP-13) base Plate weight 7.5 kg. of size 12mm thick about 30 cm dia. | Nos | 3 | 3 | 4 | 1 | 4 | 0 | 3 | 1 | 2 | 3 | 0 | 24 |
| B | Backend IT Infrastructure at CMC | | | | | | | | | | | | | |
| 1 | SITC of 24 Port Distribution Switch 1x24/10G SFP Ports all populated (fully loaded) | Nos. | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 10 |
| 2 | SITC of VMS Server | | | | | | | | | | | | | |
| i | VMS Server with 40TB Usable Storage, configured in RAID 5 | Nos | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|--------|------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|-----------|
| ii | VMS Server with 60TB Usable Storage, configured in RAID 5 | Nos | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 6 |
| iii | VMS Server with 90TB Usable Storage, configured in RAID 5 | Nos | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 3 |
| 3 | SITC of VA Server, as per requirement of this project | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 4 | SITC of 42 U Server Rack | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 12 |
| 5 | SITC of OS, VM License, Database License | Lot | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 6 | SITC of 24X7 Operational Full HD 55" LED Display with all mounting & connecting accessories | Nos | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 14 |
| 7 | SITC of Monitoring Workstation with 1 number of 24" HD LED Monitor | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 8 | SITC of Video Management Software Channel License, as per requirement of this project (For 11 Jails) | LOT | 1 | | | | | | | | | | | 1 |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|-----------|
| 9 | SITC of AI Based Video Analytics Software License, as per requirement of this project (For 11 Jails) | LOT | 1 | | | | | | | | | | | 1 |
| 10 | SITC of ANPR application and Channel License, as per requirement of this project | LOT | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| C | Active and Passive Network | | | | | | | | | | | | | |
| 1 | Supply & Laying 12 Core Fiber Optics Cable (Armored) in existing PLB duct/ loose/ On surface, including splicing as required at site | Mtr | 2200 | 1000 | 1000 | 700 | 1800 | 0 | 1800 | 700 | 900 | 1000 | 0 | 11100 |
| 2 | Supply and laying of PLB HDPE Duct (40/33 mm) including trenching underground/ chasing in wall and repairing/ saddling in case of on surface etc., as required at site | Mtr | 1800 | 900 | 900 | 500 | 1600 | 0 | 1500 | 300 | 600 | 900 | 0 | 9000 |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|--------------|
| 3 | Supply and erection of Double Walled Corrugated (DWC) HDPE pipe to be laid 1mtr. below ground level including excavation placing the pipe in position and back filling with excavated soil etc. of size 50/38mm (Outer/ Inner dia.) | Mtr | 800 | 600 | 500 | 400 | 1400 | 70 | 1700 | 400 | 400 | 800 | 80 | 7150 |
| 4 | SITC of Outdoor Joint Closure/ Dome closure | Nos | 10 | 6 | 4 | 7 | 9 | 0 | 11 | 3 | 5 | 8 | 0 | 63 |
| 5 | SITC of UTP Patch Panel (24 Port Fully loaded) | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 6 | SITC of Fiber LIU (48 Port fully loaded) | Nos | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 9 |
| 7 | SITC Fiber LIU (12 Port fully loaded) | Nos | 13 | 10 | 10 | 7 | 20 | 0 | 20 | 6 | 8 | 13 | 0 | 107 |
| 8 | SITC of Single Mode Fiber Patch Cord armored (3M) | Nos | 52 | 46 | 45 | 40 | 66 | 0 | 66 | 42 | 30 | 52 | 0 | 439 |
| 9 | SITC of Armored Double Jacket UTP Cat 6 Cable | Mtr | 3500 | 3500 | 3500 | 2200 | 5000 | 1000 | 5500 | 1500 | 2000 | 5000 | 1500 | 34200 |
| 10 | SITC of CAT6 Patch Cord 3 Meter | Nos | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 15 | 10 | 10 | 115 |
| D | Power Backup at Central Monitoring & Control Room | | | | | | | | | | | | | |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|-----------|
| 1 | SITC of 5 KVA 3Ph Online UPS and 30 Min Backup on full load | Nos | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| 2 | SITC of MCB DP 40 Amp with Sheet metal MCB Box Double Door & Copper Bus Bar Chamber 63Amp 4 Pole | Lot | 10 | 10 | 10 | 7 | 20 | 2 | 15 | 7 | 8 | 10 | 2 | 101 |
| 3 | SITC of Chemical Earthing with copper bounded 38mm pipe for CMC and Outdoor Racks, including pit with Cover, making connections to Racks with 8mm dia copper wire in heavy guage PVC pipe (Flushed) including boring, making trenches/ casing and repair of the same. | Nos | 15 | 12 | 12 | 9 | 22 | 3 | 26 | 9 | 10 | 15 | 3 | 136 |
| 4 | Supply and erection of PVC insulated Copper conductor Power Cables (3 x 4sqmm) | Mtr | 500 | 300 | 300 | 200 | 500 | 30 | 600 | 100 | 100 | 3000 | 1200 | 6830 |
| 5 | Supply and erection of PVC insulated aluminium armoured conductor 16Sqmm cable (4 core) | Mtr | 1000 | 700 | 600 | 500 | 1500 | 80 | 1800 | 500 | 500 | 900 | 100 | 8180 |

| S. No. | Items | Unit | Women Jail Bathinda | Borstal Ludhiana | Women Ludhiana | Malerkotla | Mansa | Moga | Nabha | Pathankot | Patti | Barnala | Fazilka | Total Qty |
|--------|---------------------------------------------------------------|------|---------------------|------------------|----------------|------------|-------|------|-------|-----------|-------|---------|---------|--------------|
| 6 | Supply and erection of PVC pipe ISI heavy 25mm dia On surface | Mtr | 2500 | 2000 | 2000 | 1500 | 3000 | 600 | 1500 | 1200 | 1300 | 400 | 50 | 16050 |

Note:

1. Bidder should enclose the unpriced Bill of quantity with makes and models offered in the Technical Bid.
2. Project is Trunkey in nature, based on the requirement client may purchase extra items on discovered rate. The successful bidder has to perform a detail site survey and prepare final Bill of Quantity and take necessary approval from Department or its representative before supply of items/equipment.

4.13 Terms & Conditions

- i. The SIs are advised to get acquainted with the proposed work and its site and also study the Architectural Drawings, specifications and special conditions carefully before tendering. No claim of any sort shall be entertained on account of any site conditions and ignorance of specifications and special conditions.
- ii. The rates quoted by the SI shall be taken as net and nothing extra shall be paid on any account i.e. royalty, cartage, taxes and stacking at required places etc.
- iii. The rates for different items of work shall apply for all heights and depths and basements, leads and lifts unless otherwise specified in the agreement or specifications applicable to the agreement.
- iv. After completion of installation, the structure cabling work shall have to be tested as per EIA standards for its suitability for use at minimum 1000 Mbps, by using suitable equipment like scanner etc. in the presence of authorized representative of Engineer-in-charge. The test results shall be tabulated and submitted, in case any part of the work does not comply with the standards specified by EIA or fails the test, the same has to be redone without any extra charge.
- v. Any damage done by the SI to any existing work during the course of execution of the work shall be made good by him at his own cost.
- vi. Articles manufactured by the reputed firms and approved by Engineer-in-Charge shall only be used. Only articles classified, as „first quality“ by the manufacturer shall be used unless otherwise specified. In case articles bearing BIS certification are not available in the market, quality of samples brought by the SI shall be judged by standards laid down in the relevant specifications. For the items not covered by RFP specifications relevant BIS standards shall apply. The sample of materials to be brought to site for use in work shall be got approved from the PPHC before actual execution of work.
- vii. The quantities of each item shall not be exceeded beyond the agreement quantities without prior permission of PPHC
- viii. Statutory deductions on account of GST, income tax and surcharge as applicable shall be made from the gross amount of the bill.
- ix. The SI shall make his own arrangements for obtaining electric connection, if required and make necessary payments directly to the department concerned.
- x. The SI shall make his own arrangement for getting the permission to ply the trucks from the traffic police.
- xi. No payment shall be made to the SI for any damage caused by rain, snow fall, floods or any other natural causes whatsoever during the execution of work. The damage caused to work shall have to be made good by the SI at his own cost and no claim on this account shall be entertained
- xii. The cost of Co-ordination/facilities extended to other SIs shall be deemed to be included in the quoted amount of SI and nothing extra shall be payable.
- xiii. Some restrictions may be imposed by the security staff etc. on the working and or movement of labor and materials, etc. the SI shall be bound to follow all such restrictions / instructions, and nothing shall be payable on this account.

- xiv. The SI shall take all precautions to avoid accidents by exhibiting necessary caution boards. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of the work by storing materials on the road.
- xv. The SI shall be fully responsible for the safe custody of the material issued or brought by him to site for doing the work.
- xvi. The rate for all items of work, shall unless otherwise clearly specified include cost of all labor, material and other inputs involved in the execution of the items.
- xvii. Any reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The SI shall keep at his own cost all such publications of relevant Indian Standards applicable to the work, at site.
- xviii. The SI shall make his own arrangement of electricity and its distribution at his own cost. The department will render only assistance to the SI for making application to authorized Electric supply agency, if required. All the fees and charges including consumption charges shall be borne by the SI.
- xix. The malba /garbage generated at site due to construction activities shall be removed from the site immediately & shall be disposed of by the SI to the approved dumping site identified by the Engineer -in-charge.
- xx. The SI shall clean the site thoroughly of scaffolding materials, rubbish, equipment left out of his work and dress the site around the building to the complete satisfaction of the Engineer-in-charge before the work is treated as completed.
- xxi. SI if required will assist the Engineer-in-charge in getting the completion certificate from local bodies.
- xxii. The department shall be at full liberty to get the installation inspected by the third party and the SI shall have to make all modifications in the designing and installations as communicated to it by the department inter-alia advised by the third party.
- xxiii. Underground pipes are to be laid at minimum depth of 1 mtr from ground level.

4.14 Guarantee

The installation shall be handed over to the department after necessary testing and commissioning. The installation including all equipment & material supplied by the SI shall be Guarantee for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipment or components, or any part thereof, so found defective during Guarantee period shall be forthwith rectified/ repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the SI in doing this, the same will be got done by the department at the risk and cost of the SI. The decision of the PPHC in this regard shall be final & binding on the SI. Sufficient trained and experienced staff shall be made available to meet any exigency of work/ rectification of defective work/ material during the Guarantee period of 12 months from the handing over of the installation, on requirement by the Engineer -in-charge. Round the clock break down services shall be ensured for rectification of defects during the defect liability period of 60 months after the date of handing over/ completion, whichever is later, and the same is deemed included in the scope of the work.

4.15 Data Retrieval

OEM/ SI shall be liable to put in best efforts for retrieval of data without any extra cost, in case any data loss, HDD Crash due to any reason to the entire satisfaction of Engineer-in-Charge and Police Department.

In case OEM is not providing data recovery service to SI, the SI may get data retrieved from any third party, lab/ organization. The SI need to submit an NDA (non-disclosure agreement) with such lab/ organization along with bid. The data recovery capabilities of such lab/ organization need to be certified by HDDOEM.

Data integrity and Privacy need to be maintained for both the retrieval process either by OEM or by third party.

The SI/OEM is exempted if data loss happens because of below reasons

1. Natural calamity/Act of God
2. Physical Damage by third party
3. Fire or any other unforeseen reason

Note: If the Servers & Hard disks are required to be carried away from the Command &Control Centre to any laboratory for data retrieval, the SI will have to make standby arrangement at his own cost till restoration of the same. SI will submit Undertaking for the same (Annex. N, O & P) along with the Technical bid

4.16 Training & Capability Building

As a part of the project, the System Integrator shall be responsible to provide training to ten Police Department officials for system operation & management and conduct capability building activities.

The System Integrator shall be required to take care of the following:

- Supply of Installation Manual, Administration Manual and User Reference/Training Manual.
- Define overall training requirements and preparation of the training plan.
- Conduct role based specific training for users in the customized software.
- Training program for police staff shall be provided by System Integrator. The activity may start soon after the system is declared as "Go live".
- During the training, all the training material like software User and Administration, Manuals/ stationary/printing has to be provided by SI.
- For the training, the entire training infrastructure like workspace, furniture, required internet connection, electrical connection, projectors, writing material would be provided by the Police Department.
- Training shall be conducted on all the equipment and system provided as a part of this project.

Note: Due to global supply chain issues, Client may release payment on partial delivery of hardware as well as installation. Minimum location for release of installation payment shall be 10 live sites.

Section 5: Specifications

5.1 Rule 144(XI) of GFR 2017 Compliant

All the quoted models should be compliant with the Rule 144(XI) of GFR 2017. All the active and passive component to be supplied for this project should not be manufactured by any OEM who is sharing land border with India. OEM factory should not be in Joint venture or contract manufacturing.

5.2 Harsh Environment Compliant

Bidder to consider the harsh and challenging environment of Punjab state while quoting models of the product with this RFP.

5.3 Detailed Specifications:

5.3.1 4 MP Bullet Camera for ANPR:

| Sl. No. | Camera Characteristics | Minimum Specification |
|---------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Image Sensor: | 1/1.8" Progressive Scan CMOS |
| 2 | Max Resolution: | 4 MP 2688 X 1520 or better |
| 3 | Lens | Auto Iris and Auto Focus Varifocal Lens with focal length of 10 to 30 mm or better |
| 4 | Min Illumination: | Color 0.004 Lux |
| 5 | WDR | True 120 dB |
| 6 | Shutter Speed | should support Up to 1/100000 s |
| 7 | Day Night Operation | Automatic using IR Cut filter |
| 8 | Viewable IR Distance | 100 Meter or better using Internal or External IR Illuminator |
| 9 | Video Streams: | Min 2 configurable streams in H.264, H.265 and M-JPEG, configurable frame rate and bandwidth. Camera should support minimum 4 Mbps Video Bit Rate or better |
| 10 | Video Compression | H.265 or equivalent |
| 11 | Video Streaming | Video Streaming: H.265 Main stream-2688 X 1520 @25 FPS and Secondary Stream D1@25 FPS |
| 12 | Network Interface | 1 no. RJ 45 10/100M POE/POE+ |
| 13 | Other Interface | Should have 1 number of alarm In and 1 Alarm out |
| 14 | Protocol | IPv4/IPv6, TCP/IP, HTTP, HTTPS, FTP, DNS, DDNS, RTP, RTSP, RTCP, NTP, UPnP, UDP |
| 15 | Security | Video encryption; configuration encryption; Digest; WSSE; account lockout; security logs; generation and importing of X.509 certification; HTTPS; trusted boot; trusted execution; trusted upgrade |
| 16 | Edge Storage | Each camera be supplied with Compatible 256 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with |

| | | |
|----|-----------------------|----------------------------------------------------------------------------------------------------------------|
| | | offered VMS from Day 1 |
| 17 | Operating Temperature | -30 to +50 Deg C |
| 18 | Power Option: | 12 VDC / PoE (802.3af/at) |
| 19 | Certification | Protection Level IP67, IK10 |
| 20 | Mounting Kit | Camera to supplied with suitable wall mount/Pole Mount kit as per site requirement without any additional cost |
| 21 | Certification | BIS/UL, CE, FCC, RoHS |

Quoted CCTV OEM should be full time/ affiliate ONVIF Member

5.3.2 4MP Outdoor Bullet Camera with Edge Analytics

| Sl. No. | Camera Characteristics | Minimum Specification |
|---------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Image Sensor: | Image Sensor: 1/1.8 or 1/ 2.8 inch progressive CMOS Sensor or better. |
| 2 | Max Resolution | 4MP 2688x1520 or better |
| 3 | Lens | Auto Iris and Auto Focus Varifocal Lens with focal length of 2.8 to 12 mm or better |
| 4 | Min Illumination: | Color 0.002 Lux |
| 5 | WDR | True 120 dB |
| 6 | Day Night Operation | Automatic using IR Cut filter |
| 7 | Viewable IR Distance | 60 Meter or better |
| 8 | Video Streams: | Min.3 configurable streams in H.265 , H.264 or MJPEG , configurable frame rate and bandwidth Camera should support minimum 4Mbps Video Bit Rate or better |
| 9 | Video Compression | H.265 or equivalent |
| 10 | Video Streaming | H.265 Main stream-2688 X 1520 @25 FPS and Secondary Stream D1@25 FPS and Third Stream 1920 X 1080 @ 25 FPS |
| 11 | Image Settings | Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance |
| 12 | Audio | 1 Input and 1 Output |
| 13 | Alarm | 1 Input and 1 Output |
| 14 | Protocol | IPv4, IPv6, HTTP, TCP, UDP, ARP, RTP, RTSP, RTCP, SMTP, FTP, SFTP, DHCP, DNS, DDNS, QoS, UPnP, NTP, Multicast, ICMP, IGMP, NFS, PPPoE, SNMP, ONVIF |

| | | |
|----|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15 | Security | Configuration encryption, trusted execution, Digest, security logs, WSSE, account lockout, syslog, video encryption, 802.1x, IP/MAC filtering, HTTPS, trusted upgrade, trusted boot, firmware encryption, generation and importing of CA certification. |
| 16 | Edge Storage | Each camera be supplied with Compatible 256 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1 |
| 17 | Edge VA | Intrusion, tripwire, Smart abandoned object, smart missing object, Face detection, Scene changes detection |
| 18 | Operating Temperature | -30 to +50 Deg C |
| 19 | Power Option: | 12 VDC / PoE (802.3af/at) |
| 20 | Certification | IP67, IK10 (IEC 62262:2002) rated Metal Body |
| 21 | Mounting Kit | Bullet camera to supplied with suitable wall mount/Pole Mount kit as per site requirement without any additional cost |
| 22 | Certificate | BIS/UL, CE, FCC, RoHS |

Quoted CCTV OEM should be full time/ affiliate ONVIF Member

5.3.3 2MP or better Indoor Dome Camera

| Sl. No. | Camera Characteristics | Minimum Specification |
|---------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Image Sensor: | 1/2.8" Progressive Scan CMOS |
| 2 | Max Resolution: | 2MP (1920 x 1080)@25fps |
| 3 | Lens | Fixed Lens 3.6mm/4mm |
| 4 | Min Illumination: | Color 0.005 Lux |
| 5 | WDR | 120dB |
| 6 | Day Night Operation | Automatic using IR Cut filter |
| 7 | Viewable IR Distance | 30 Meter or better |
| 8 | Video Streams: | Min.4 configurable streams in H.265 , H.264 or MJPEG , configurable frame rate and bandwidth Camera should support minimum 4Mbps VideoBit Rate or better |
| 9 | Video Compression | H.265 or equivalent |
| 10 | Video Streaming | H.265 Main stream -1920 x 1080 @25 FPS and Secondary Stream D1@25 FPS and Third Stream 1920 X 1080 @ 10 FPS Fourth Stream D1@ 10 FPS |
| 11 | Image Settings | Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance |

| | | |
|----|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12 | Audio | Built in mic |
| 13 | Alarm event | Motion/tampering detection, audio detection, network disconnection detection, IP conflict detection, memory card state detection |
| 14 | Protocol | IPv4, IPv6, HTTPS, TCP/IP, HTTP, RTP, ARP, RTSP, SMTP, FTP, SFTP, DHCP, DNS, UPnP, NTP, Unicast, Multicast, NFS, PPPoE, SNMP, ICMP, ONVIF (Profile S, Profile G, Profile T) |
| 15 | Security | AES 256-bit Encryption, Configuration encryption, trusted execution, Digest, security logs, WSSE, account lockout, syslog, video encryption, IP/MAC filtering, HTTPS, trusted upgrade, trusted boot |
| 16 | Edge Storage | Each camera be supplied with Compatible 256 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1 |
| 17 | Audio Compression | PCM/G.711a/G.711Mu/G.726 |
| 18 | Operating Temperature | -30 to 50 Deg C |
| 19 | Power Option: | PoE/DC12V |
| 20 | Certification | IP67, IK10 rated Metal Body |
| 21 | Mounting Kit | Dome camera to supplied with suitable wall mount/Pole Mount kit as persite requirement without any additional cost |
| 22 | Certificate | BIS/UL, CE, FCC, RoHS |

*Quoted CCTV OEM should be full time/ affiliate ONVIF Member

5.3.4 2MP Outdoor IR PTZ cameras with 200 Meter IR Range and Edge Analytics

| Sl. No. | Camera Characteristics | Minimum Specification |
|----------------|-------------------------------|-------------------------------------------------------------------------------|
| 1 | Image device | 1/2.8"/1/1.8" Progressive Scan CMOS or better |
| 2 | Horizontal Resolution | Minimum 2MP or better |
| 3 | Frame Rate | 25 FPS (Minimum) |
| 4 | Compression | H.265 only |
| 5 | Streaming | Minimum 3 (three) streams |
| 6 | Panning Range & Speed | 0 deg to 360 deg endless, Preset Speed- 260 deg per second |
| 7 | Tilting Range and Speed | 0 to 20 deg above horizontal to 90 deg down, Preset Speed- 120 deg per second |
| 8 | Presets | 50 presets or higher |
| 9 | Group Touring | Auto track, Auto pan, preset control, patrol modes |

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|----|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Pre/Post Alarm buffer | Yes |
| 11 | ID/Password | User ID/Password |
| 12 | Encryption | HTTPS |
| 13 | Physical Port | 10/100 base Tx Ethernet |
| 14 | Protocol | IPv4; IPv6; HTTP; HTTPS; 802.1x; QoS; FTP; SMTP; UPnP; SNMP v1/v2c/v3.DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP, ONVIF Profile S&G&T |
| 15 | Simultaneous Connection | 5 users or more |
| 16 | Lens Size and Zoom | Auto Iris and Auto Focus Varifocal Lens with maximum focal length of 150 mm or better 32 X Optical Zoom or better |
| 17 | IR Distance | 200 Meter or better |
| 18 | Wide Dynamic Range | True WDR 120dB or better |
| 19 | Auto Exposure | Automatic Level Control/Electronic Level Control |
| 20 | Minimum illumination | Color: 0.005 lux, F1.6 0Lux in IR Mode |
| 21 | Motion Detection Zones / | 4 or higher privacy zones |
| 22 | Auto Gain Control | Yes |
| 23 | Electronic Shutter | 1/50-1/10000 or better |
| 24 | White Balance | Yes |
| 25 | Edge Storage | Each camera be supplied with Compatible 64 GB Industrial Grade Class 10 Memory Card for edge recording in conformance with ONVIF Profile G. Camera should support seamless ANR with offered VMS from Day 1 |
| 26 | Edge Analytics/ VA | <ul style="list-style-type: none"> • Motion detection • Tripwire detection • Intrusion detection • Object Abandoned/Missing • Auto Tracking • Video tampering alarm • Face detection |
| 27 | Operating Temperature | -30 to 50 Deg C |
| 28 | Power Source | Device shall work on PoE . Suitable POE Power injector or 230V AC power adaptor shall be included |
| 29 | On Screen Display | Yes (English) |
| 30 | Protection | TVS 6000V Lightning protection, Surge Protection and Voltage Transient Protection |

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|----|-------------------|---------------------------------------------------------------------------------|
| 31 | Housing - Outdoor | IP67 and IK10 aluminum metal construction |
| 32 | Mounting bracket | Standard wall mount or pole mount as per actual site requirement to be supplied |
| 33 | Certificate | BIS/UL, CE, FCC, RoHS |

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5.3.5 24 port Giga POE Switch

| S.no | Specifications |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Architecture & Performance |
| 2 | Switch Should have Gigabit port including 24 Nos. of 10/100/1000 Mbps Ethernet PoE Ports and 4 Nos. of dual personality (SFP/GbE) ports |
| 3 | The Switch Should have Non-blocking wire speed switch fabric and forwarding rate |
| 4 | The Switch Should support Min. 8K Mac address or more |
| 5 | The switch Should have PoE power budget of at least 370 W. |
| 6 | Should support IEEE 802.3az standard |
| 7 | Should support Dual Software (firmware) image, CPU Memory 128 MB, Flash Memory 32 MB |
| | Should support the following Standard |
| 8 | IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Ethernet, IEEE 802.3ab 1000BASE-T Ethernet, IEEE 802.3z 1000BASE-X Ethernet, IEEE 802.3x flow control |
| 9 | IEEE 802.1p class of service, priority protocols, IEEE 802.1X port authentication, IEEE 802.3ad LACP aggregation |
| | Traffic Management and QoS |
| 10 | Rate limiting: Rule-based/port-based bandwidth control, 64 kbps granularity |
| 11 | Port-based egress traffic shaping, Switch Should support Jumbo frames of 9KB |
| 12 | Should support broadcast storm control to avoid unwanted traffic attack on CPU, should support IEEE 802.1p with priority queues for different traffic types |
| 13 | Should support IEEE 802.1p with priority queues for different traffic types |
| 14 | Supports IGMP/IGMP snooping v1, v2, v3, HOL Blocking Prevention, Strict Priority Queue, Weighted Round Robin (WRR) |
| 15 | Should support congestion control on all ports |
| | Link Aggregation |
| 16 | IEEE 802.3ad LACP link aggregation compliant |
| 17 | Up to 8 aggregation groups, |
| | Resilient Network |
| 18 | Should support IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) |
| 19 | Should support IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) |
| 20 | Should support Multiple Rapid Spanning Tree Protocol |
| | User Security and Authentication |
| 21 | Should support MAC filtering per port secures access to each port |
| 22 | Should support IEEE 802.1Q tag-based and port-based VLAN |
| 23 | Switch Should support Protocol Based VLAN, IP subnet based, Guest VLAN and MVR |
| 24 | Should support IEEE 802.1x based on guest vlan and MAC-based, MD5 authentication |
| 25 | Should support Layer 2 Protocol Tunnelling (L2PT)/Asymmetric VLAN/Auto Surveillance VLAN, Should support IEEE 802.1x based on guest vlan and MAC-based |
| 26 | should support at least 256 or More static VLAN Groups, up to 4K dynamic VLAN, IEEE |

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| | 802.3x Flow Control |
| 27 | should support Loop guard/Loopback Detection. |
| 28 | Should support RADIUS MAC login, should support NTP, Syslog and DNS client. |
| 29 | Should support 802.1X port-based authentication, compensated assignment over VLAN and bandwidth for valid access |
| 30 | Should support 802.1ab LLDP and MED |
| | Network Administration Security |
| 31 | Should support static and dynamic IP-MAC and Port binding for port security, should support SSL |
| 32 | Should support DHCP snooping to set the authorised ports to communicate with DHCP servers |
| 33 | Should support AAA through Radius/Tacacs+ servers, should support ARP Spoofing Prevention & MD5 authentication |
| | IPv6 Support |
| 34 | IPv6 over Ethernet, IPv6 Addressing, ICMPv6, Dual Stack, Neighbour discovery |
| | Network Management |
| 35 | Web-based management, SNMP v1, v2c, v3 |
| 36 | RMON (history, statistics, alarms and events) for enhanced traffic management, monitoring and analysis |
| 37 | Port mirroring: supports source/destination/both port mirroring |
| | Intelligent ACL (L2/L3/L4 Access List Control) |
| 38 | Based on MAC address , VLAN, IP address, Protocol, TCP/UDP type and DSCP |
| | Certification |
| 39 | CE-LVD, FCC, CE, BSMI, MTCTE/TEC-ER, RoHS Compliant |
| 40 | The OEM Brand should be having valid ISO 9001, ISO 14001, ISO 45001. certificates, all these certificates must be submitted in technical bid. |
| 41 | All switches and modules if required must be from the same OEM for better compatibility |
| | Environmental specifications |
| 42 | Operating temperature -5 Deg C to 50 Deg C, Storage Temperature -20 to 70°C |
| 43 | Operating Humidity 10% to 95 % (Non-condensing) |
| 44 | ISO 45001, ISO 14001 & OEM Should have Certificate for Industrial Cyber Security Capability (Like - IEC-62443-4-1:2018 or Equivalent) |

5.3.6 Video management, Video Recording Software

| Sl. No. | Description |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The Software shall be Scalable, Client Server based, Enterprise level capable to handle at least 1000 camera in the same system by adding camera license and server. The VMS software should be ONVIF Profile S, G, T & M. Conformant and independent of camera make and shall support at least 40 different makes of camera on Native Driver to showcase tight integration. (List of Supported Camera Make to be submitted) |
| 2 | The VMS shall be able to support cameras at up to 30 frames per second and any resolution supported by the camera and the camera driver. The VMS shall automatically offer only supported fps and resolution combinations for user convenience. |
| 3 | The system shall allow the recording, live monitoring, playback of recorded video, audio, and data simultaneously |

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| 4 | The VMS Management software should allow load balancing feature for effective utilization of resources for Server and client. It can allow system to be load balancing as per remote or local usage. |
| 5 | The Software shall be able to control Bit Rate /Quality of camera, FPS, Resolution as per requirement. The same can be applied from VMS System manager itself not from the camera web browser. |
| 6 | The VMS shall allow bidirectional audio communication with the cameras Two-way Audio Communication can be in 3 different Modes, Recording shall be available with Audio & video Synced together: |
| 7 | Closed Mode: In the closed mode, the audio channels are not open |
| 8 | Listen Mode: In the listen mode, the user will hear audio from the camera and any potential audio going to the camera from any other VMS client. The audio channel from current user is not open. |
| 9 | Talk Mode: In the Talk mode, the user will speak from the Client Station to the camera. |
| 10 | The VMS shall be able to integrate with other systems using video, data or digital I/O, Scheduled I/O as well as logical I/O. |
| 11 | VMS should 3 motion detection methods- Comparative , Adaptive and Hermeneutic for adverse condition |
| 12 | The VMS shall support inbuilt Server based Video Analytics. The license and software link should come as single package to make it easy for the user. Software should be able to handle Video Recording and Video Analytics for minimum quantity of cameras as mentioned in scope of work in recorder. Recording to be done at 1080p, 20 fps Please note that quantity of cameras may vary during the site survey by the successful bidder. However no extra payment will be made in case of variation in quantity of cameras. |
| 13 | The VMS shall be Windows based supporting native or virtualized Windows Server 2016 and Windows 10 or any open platform. The VMS shall allow operation with PC Keyboard, Mouse and DirectX compliant Keyboard (Joystick). |
| 14 | The VMS shall support unlimited storage and should be able to record in NAS, SAN, Cloud Storage, iSCSi, DAS, local or network drive and DAS |
| 15 | The VMS shall support H.264, H.265, MPEG-4 and MJPEG compression methods |
| 16 | The VMS shall support multi-live streaming, multi casting and thru cast streaming methodology |
| 17 | The VMS shall support exporting video in a tamper proof format. The media player provided in the software shall automatically notify if the video or audio has been modified |
| 18 | The VMS shall provide file export tool for export of single frame of video in BMP, GIF, TIF, JPG and PNG formats and export of video files in SEF/.TS, ASF, AVI and MKV/ .mp4 format |
| 19 | Archiving Support |
| 20 | The Client software should have a "Help" Tab which should have all the details of operation and to include all topics related to the software for the operator. |
| 21 | Quick review of the recorded video |

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| 22 | Support any video resolution like CIF, 2CIF, 4CIF & HD up to 20MP. |
| 23 | Quick search of devices in the viewing application |
| 24 | Extended camera viewing on multiple monitors |
| 25 | Multi camera sequential tours |
| 26 | Digital zooming feature for live video and playback |
| 27 | Facility for exporting the video on a portable media such as pen drive/DVD/portable hard disk etc. |
| 28 | The software should comply that all client to server and server to server communications are compressed and encrypted and connection specific key should be 256-bit AES and data encryption should be 256-bit AES. VMS software should have the Encryption algorithm of 4096-bit RSA and hashing of SHA -512 for tamper proof data. The exported video should be saved in SEF (Secure Export Format) or Encrypted File for secure non tamper file system with Password key which can be set to 24 Characters. The Client application should support dual password mode for each user. |
| 29 | Video search on the basis of date, time, event, camera, location & alarm Post recording motion search analysis |
| 30 | The VMS shall have the following licensing policies: |
| 31 | The VMS shall not have base licenses and standard channel modules. The VMS shall be flexible to provide and support licenses for any number of cameras. |
| 32 | The VMS licensing shall allow changing any and all of the cameras at any time without extra cost or license key change |
| 33 | The VMS shall not require online licensing process |
| 34 | The VMS shall support instant device/ Camera replacement using original IP address. The IP of the new device/ camera shall not be needed in the software while replacing faulty camera / device |
| 35 | The VMS licensing shall require MAC Id of Server/ Recorder only, not of camera devices. |
| 36 | The VMS shall support software inbuilt Secure Data distribution methodology for fault tolerance |
| 37 | The VMS Management software should allow Dual Password Feature for Administrator. |
| 38 | Administrator Rights |
| | Admin should have rights to give access, windows control, screen rights, device, stream, system setting and various plug-in access to the users |
| | Admin can give access to the users to exist, Logoff, lock and unlock the VMS application and client GUI. |
| | Admin can give right to the users to change the profile from VMS application and client GUI. |
| | User can search devices in device tree |
| | User can add comments to the alarms |

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| | Users can create, close, resize, minimize, maximize, restore the window |
| | Users can open about windows and can take help from there. |
| | User can open, close, rename and change the tab grid. |
| | Screen Element: |
| | User can view the below elements: |
| | Can view alarm list |
| | can view activity panel |
| | can view playlist panel |
| | Can view device tree: |
| | Can view description panel |
| | can vie administrative device description |
| | Can view tab |
| | Can vide menu bar |
| | Can view status messages |
| | Can view master connection status |
| | Can close component bar |
| | can change component modes |
| | User can be able to create custom grids |
| | User can be able to change device order in grid. |
| | User can scale user interface |
| 39 | Layouts: |
| | User can view other users shared layouts |
| | User can view own layouts |
| | User can manage, share and schedule the layouts |
| 40 | Bookmarks: |
| | User can view other users shared bookmarks |
| | User can view own bookmarks |
| | User can share bookmarks |

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| | User can view shared tab content |
| | User can view, save, share and remove tab content and password protected |
| 41 | Device access: |
| | User can change camera settings, close the camera, change thru cast settings, camera streaming settings, and display settings. |
| | User can change general settings, clip export settings, image export settings, plug- in settings, alarm settings, stream settings, display settings, advanced settings, storyboard export settings |
| 42 | Access to Stream: |
| | User can view live streams |
| | Admin can restrict user to view playback stream limit from 1 minute to 24 hrs. |
| | Admin can authorize the user to use mixed mode and privacy masks. |
| | User can export a video to clip in SEF or Encrypted format, Audio to clip, text data to clip, storyboard |
| | User can export still image, print still image, view archive, create archives. |
| 43 | Settings: |
| | User can change general settings, clip export settings, image export settings, plug-in settings, alarm settings, stream settings, display settings, advanced settings, storyboard export settings, data cache settings. |
| 44 | Plug-in roles: |
| | Admin can give rights to the users to use, open, close and change settings of the below plug-in roles as per user access. |
| | There should be minimum below plug-in roles in systems: |
| | Tool plug-in alarm |
| | Tool plug-in alarm popup |
| | Tool plug-in alarm search |
| | Tool plug-in camera 360 |
| | Tool plug-in camera carousel |
| | Tool plug-in diagnostics |
| | Tool plug-in help |
| | Tool plug-in image controls |
| | Tool plug-in monitor manager |

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| | Tool plug-in motion search |
| | Tool plug-in profile map |
| | Tool plug-in text data search |
| | Tool plug-in thumbnail search |
| | Tool plug-in VCA visualization |
| | Tool plug-in web browser |
| | Tool plug-in zoom |
| | The software should have provision to send mail adding Username, mail id with user group, SMTP details, port Number, user credentials |
| | The Software OEM (VMS, VA) can be of global reput e or an Indian OEM should have been incorporated at least 10 years from the date of tender release, In case of Global OEM, Incorporation certificate to be submitted with apostille as well the OEM should be registered in India since last 5 years. (In case the company has been taken over and now operates with different Brand name then the new incorporation date in India shall be considered) |
| | VMS, analytics OEM should have ISO latest certificates: ISO 9001, ISO 14001 and ISO 27001. |
| | VMS software having analytics feature with full cameras calibration capability like camera field of view, camera heights, horizontal line, virtual mimics, virtual ruler etc. using software to calibrate the camera to reduce false alarm. |
| | VMS and VA OEM should have at least 5 or more references in India for deployment with more than 250 CCTV cameras. All of these 3 references must be in PSU/Railways/Smart cities/Safe City/City Surveillance/Defense/Airports. PO copies or completion certificate from customer must be furnished for the same. |
| | The Software OEM should have deployed Min. 20000 camera license/ Min. 25000 VMS/AI/VA license in an outdoor environment CCTV Project which is handed over and running satisfactorily for a min. 3 years or more period. Relevant documents from End user or SI to be submitted as proof. In case VA and VMS software are from different OEM, AI based Video Analytics software OEM shall have minimum 4000 licenses supplied in last 5 years. WO copy to be submitted as documentary proof. “ |
| | The platform software used for installation of VMS, VA software must be enterprise license. Home edition shall not be acceptable |
| | The software OEM (VMS, VA) should be part of 3 Govt. projects/ Smart City / Safe City / City Surveillance project in India - Relevant PO copies to be submitted" |
| | Software should be of enterprise level and able to handle minimum 100 cameras or more with analytics in one recorder. One master recorder shall manage a system of up to min of 180 Servers with the possibility to expand the system to include multiple master recorders. Recorder Software should have a spare of minimum 10 % |
| | The system management server shall run as a Windows service on one of the recorders. The |

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| | system management server shall control the following: |
| | a) Overall system operation. |
| | b) Data communication between recorders and client programs. |
| | c) Maintain user and profile lists. |
| | d) Authenticate and authorize users and applications. |
| | e) Maintain system logs. |
| | f) Handle system diagnostics. |
| | g) System health monitoring |
| | Software shall allow the recording, live monitoring, playback of archived video, audio and data, network transmission and changes to settings simultaneously. |
| | Server software shall enable the client to dynamically create connections between Cameras and workstations and view live or recorded video on the digital monitors (audio, video, serial ports and digital/Os) |
| | Server software shall provide the client seamless operation of all cameras and workstations available in the system regardless of the actual connection to different archive servers |
| | Offered software shall use standard servers for all the processing and shall not need any proprietary server hardware |
| | The alarms may be triggered by the following events: |
| | a. Motion (or lack of motion) in camera view |
| | b. Change in sound level |
| | d. Digital input signal from an external device |
| | e. Missing camera signal (resulting for example from sabotage) |
| | f. Custom event from 3rd party application. |
| | G. Video Content Analytics (VCA) event from inbuilt. |
| | The alarm management shall support the following automatic responses: |
| | a. Pre- and post-recording up to 60 minutes of video and audio |
| | b. Opening an alarm camera window or audio window (real-time or playback) on the workstation screen |
| | c. Displaying the alarm on the alarm list |
| | d. Activating a digital output |
| | e. Turning a dome camera to a preset position |
| | f. Starting a dome camera tour |

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| | g. Sending an alarm e-mail message |
| | h. The alarm management shall be able to acknowledge alarm automatically or manually |
| | i. Support for multiple Alarm pop up monitors |
| | j. The user can add comments to alarms. |
| | k. The user can specify to show certain or all alarms on the time slider. |
| | l. Alarms can have a custom color |
| | The alarm management shall support the following alarm viewing features: |
| | a. It should provide the facility to assign the priority level to different alarms. |
| | b. It should allow pass the specifically arms to specified users rather than sending all alarms to every user. |
| | c. Users in same user group should see and be able to manage received alarms assigned for the same user group. All users should see the alarm status in real time. |
| | d. System should have single alarm stack even though there are multiple recording servers |
| | Software should allow creation of multiple camera sequences. It should be possible to set the dwell time for the cameras within the sequence. |
| | Software should allow taking the backup of the recorder server configuration and restoring the same if required. |
| | Software should allow easy and user-friendly menus for camera configurations. It shall allow changing settings for multiple cameras of the same type simultaneously |
| | Software should provide totally configurable user privileges with independent user rights. The user privileges are saved in profiles which can be assigned for the required users |
| | Software should provide the utility to interface the recorder servers with internet. Internet Gateway server shall allow clients to view live and playback video streams, control PTZ cameras and control digital I/O devices over the internet |
| | Software shall allow the client applications to interact with multiple recorder servers simultaneously and allow the simultaneous display cameras from different recorders on the same monitor |
| | The VMS shall support integration with different applications like different types of Sensors, Baggage Scanner, Perimeter Intruder Systems, RFID, Physical ACS etc. |
| | The client programs shall include end user client program, system management client program, browser-based client program and mobile client programs, at least 10 concurrent client license to be provided which can later be expandable up to 20 User license without any charge. |
| | The end user client program shall support multiple profiles for each user |
| | Client applications shall provide an authentication mechanism, which verifies the validity of the user through the selected system management server |
| | Client shall perform the following applications simultaneously without interfering with any of the |

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| | Archive Server operations (Recording, Alarms, etc.) |
| | a. Live display of cameras and audio |
| | b. Live display of camera sequences |
| | c. Playback of video and audio |
| | d. Media search tools |
| | e. PTZ control |
| | f. Display and control of Maps |
| | g. Alarm management |
| | h. Digital I/O control |
| | Client applications shall support any form of IP network connectivity including: AN, WAN, VPN, Internet and Wireless |
| | Client applications shall support IP Multicast (RTP) and Unicast (TCP or RTP) video and audio streaming as required depending on the network capabilities |
| | Client application should support both dynamic and predefined Video display layouts, for example Full screen, 2x1, 2x2, 3x2, 3x3, 3x3+1 large , 4x2, 4x2+1 large , 4x3, 4x3+1 large , 4x3+2 large , 4x4 , 4x4+1 large , 5x5 , 6x5 + 1 large, 7x5 , 10x10 |
| | Client application shall enable playback of audio along with video. The monitor shall enable the user to work with multiple Audio layouts containing collections of audio clips |
| | Users shall be able to define and store their own layouts, which they will be able to recall later through a layout list. Each layout shall contain information about the dimensions and positions of all windows along with image filter data and data about the active profile |
| | Client application shall enable playback of audio mixed from both live and recorded audio sources, allowing the user to control the volume of each source independently as well as mute them |
| | Client application shall be able to control the playback with play, pause, forward and speed buttons |
| | Client application shall allow operators to save bookmarks with description of the recorded and live video, audio and text data |
| | Client application shall provide drag and drop facility for selection of the devices to be viewed in the viewing layout |
| | Client application shall support Graphical Site Representation (Maps) functionality, where digital maps are used to represent the physical location of cameras and other devices throughout facility. Maps should have the capability to add the hyperlinks to create interlinked maps. It should allow the selection of any camera for display from the map |
| | Client application shall support digital zoom on a fixed/PTZ camera's live and recorded video streams |

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| | Client application shall provide management and control over the system using a standard PC mouse, keyboard or CCTV keyboard. The client application shall support area zoom and click to center functions for PTZ cameras if supported by the specific camera driver. Area zoom zooms into the rectangle drawn by mouse and click to center means clicking anywhere on the PTZ camera view centers the camera to that position |
| | Client application shall be able to control pan-tilt-zoom, iris, focus, presets and dome patterns of the PTZ camera |
| | Software should provide the ability to play a minimum of 32 video channels in time sync with each other. Software shall support exporting a multichannel clip with video, audio and text channel data |
| | Any user can share layouts and should be visible to all users do same profile |
| | Ability to Auto crops each camera view. |
| | Should support Virtual Matrix option to build video walls and video matrixes, the matrix can be created by having a separate display server for each four monitors in the matrix, as well as an operator console server to manage the display servers. Agile virtual matrix (AVM) operator console can be positioned in a fixed camera grid cell. |
| | Ability to Define a Virtual camera that focuses in the part of camera view is it live or playback. Using Virtual Cameras one can view chosen parts of the full recorded Camera View in a Separate Window. View Specific Area of interest in a virtual camera and choose per virtual camera for zooming, View, Aspect Ratio and resolution. Virtual cameras may overlap each other. 45 such Virtual cameras can be made from one single camera view. |
| | Shall have visualized Video intelligence for the Virtual camera to Auto Zoom and track an object. |
| | The device Station should have various symbol options to user to understand if the Camera is in below Conditions: Normal, Recording, No Signal, not in use, Connecting and No Connection. |
| | The Graphic User Interface shall be very easy for the user to monitor and deter. The User interface in one window shall have at least the following : Menu, Profile Control, Device Tree , Data & Time settings , Activity Setting , Play back control , time slider, Camera Tour and control , Alarm List , Different Plug-in options , Different tab controls for cameras. |
| | The camera toolbar shall be displayed when the mouse is moved over a camera or if a camera is selected with other means. If the mouse is not moved for some time, the camera toolbar disappears automatically. |
| | The camera toolbar shall contain at least the following items. |
| | <ul style="list-style-type: none"> • Camera settings control |
| | <ul style="list-style-type: none"> • Export control |
| | <ul style="list-style-type: none"> • Image print control |
| | <ul style="list-style-type: none"> • Two-way audio control |
| | <ul style="list-style-type: none"> • View or virtual zoom control |

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| | <ul style="list-style-type: none"> highlight control |
| | <ul style="list-style-type: none"> Image Control plug-in control |
| | <ul style="list-style-type: none"> 360 camera de-warping control (In case of 360 Cameras) |
| | <ul style="list-style-type: none"> Other toolbar plug-in |
| | Alarm Indications: The Alarm shall be easily indicated in the device tree, and in Profile Maps, the camera which is associated to an alarm shall be highlighted in yellow / Red Color. |
| | Alarm Filtering Option shall be there. It shall be possible to “silence” alarms for a desired time period Ranging from 5 Minutes till 24 Hours or more. This is useful if alarms are unintentionally active all the time, e.g., due to adverse environmental conditions such as heavy wind, rain or snowfall |
| | Each camera view should have Image Control Plug-in and each camera view can be configured individually as per the condition. The Image Control plug-in has various options to adjust the camera image. |
| | Option to turn the image to black and white image |
| | Edge highlight filter |
| 45 | There should be Camera Audit facility inbuilt in VMS platform including below list |
| | Camera order number |
| | Camera Name |
| | Camera Shortcut |
| | Footage start and end time |
| | Footage days/Hrs. |
| | Current status like, no signal, working, not configured etc. |
| | Cameras reference image, Current image |
| | System should have feature to make the camera Audit summary and export the camera reports |
| | System should have feature to select one camera or multiple cameras for the audit summary. |
| 46 | Audit summary: |
| | Audit summary should have below details: |
| | camera name |
| | Audit image |
| | Audit status |
| | Audit comment |

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| | Admin details |
| | Export of Audit summary in .pdf file. |
| | Audit logs should tell from which workstation the record is being viewed |
| | Evidence Export Solution - The Software shall be able to create, export and share Incident by making clips from multiple cameras with labels, descriptions and comments. The Clips shall be played simultaneously or sequentially in desired order to give holistic view about the incident and the evidence. The systems should combine the video clips from multiple cameras collected together, and then edit them into a movie that contains authenticity checked material and detailed descriptions of what is being shown on the videos. The Evidence solution makes it very easy for the viewer to follow and understand exactly what happened. The exported video should be saved in SEF (Secure Export Format) or Encrypted File for secure non tamper file system with Password key which can be set to 24 Characters. The Client application should support dual password mode for each user. |
| | Advanced Activity Search - The software should have the capability to have intelligent and advanced activity /event search detection methods of last 25 such instances in a given period of time which will enable user to search a particular portion in the entire video where the incident / theft / bomb was kept within couple of minutes. The Video of such event can be directly exported from here itself for further process |
| | Any Android or IOS smart phones can be converted as a camera and integrated with the system software as and when required and the footage to be recorded. Static IP for the devices shall be provided by end user if opted for. |
| | The Mobile Client Version shall be available in Android and IOS. The Mobile client shall have the below Minimum Feature list: - Grid of 4 cameras visible when a tablet device is used in a landscape mode. |
| | - Swiping gestures can be used to switch between camera grids and also with individual cameras to get to full screen mode. |
| | - All system generated alarms. |
| | - Easy date and time search for video footage, still images can be sent via email as JPEG files by a single tap, its PTZ control includes manual control, pre-set positions and camera tours, I/O controls, such as doors and lights, can be controlled by the Mobile Client and sites can be easily configured on the road. |
| | Tru Stream support: for multi-streaming cameras, Client will automatically choose a stream that matches best the grid cell resolution that the camera is displayed in. |
| | Client should support both a dark and light visual theme for in Certain products. |
| | Client can be used to simultaneously connect to multiple different Master management Servers. It is also possible to directly create desktop shortcuts that connect to a certain Master Server. |
| 47 | 2-factor authentication (offline, cell phone based) |
| | The software should have increasing the security of the system by requiring the user to have a second authentication step besides only the user name and the password to prevent hacker to login and audit logs are specified to special person not to the user group. |

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| 48 | User permissions for System Administrator |
| | Software should have possibility to set detailed permissions for the system manager for different user groups. This should allow for instance implementing functionality for allowing different user groups for hardware maintenance and user administration, which is useful for large scale systems. |
| 49 | Alarm popup monitor selection algorithms |
| | Software should support below under the alarm popup settings: |
| | i. New alarm first: new alarm pushes previous alarm to next monitor |
| | ii. Circulate alarms in rotation |
| | iii. Circulate alarms back and forth |
| | Software should have feature to use Nivida or Intel Media SDK based codec's for H.264 & H.265 (CPU & GPU) |
| | Software should have all of the below features: |
| | 1) Privacy zones, |
| | 2) Facial blurring and |
| | 3) The privacy functionalities are available also in the exported clips. |
| 50 | Activity MAP |
| | Heat map (activity) required in VMS software so that can be used to calculate heat map (activity) from camera view by using recorder metadata for real time and playback mode... |
| | Activity Map should visualize activity in the image in certain period of time. Each color should represent specific duration of activity. Activity map colors should scale so that most active area is reddest. |
| | Activity maps can be combined by opening multiple camera views. As a result, scaling of the colors are common for all camera views so that most active area is reddest. Areas can be masked out by left mouse button and mask can be cleared using right mouse button. |
| | Activity scaling should have color scale from Red on top, Orange, Yellow, Green and bottom to Blue with higher activity with time and percentage respectively. |
| | Software should have following features: |
| | Real-time mode: |
| | The system should have real time Activity Map mode. Start time should be the time when new camera view is opened into the plug-in. Activity map generation can be reset. |
| | Last hour mode: |
| | The system should have last hour mode option to check activity map which is queried. |
| | Custom mode: |

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| | The system should have custom mode to check activity map which is queried. |
| | Common behavior for both real time and playback mode: |
| | The software should show: If there is metadata but no activity map data in the metadata then no message should show. |
| | If there is no metadata in specified search time, then closest metadata is searched (forward from start time and backwards from end time) |

5.3.7 AI Based Video Analytics

| Sl. No. | Description |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Minimum Required Parameter |
| 1 | The video analytics (VA) shall be of reputed and shall be integrable solution from the VMS manufacturer. Interoperability shall be the joint responsibility of VA, VMS OEM and Bidder |
| 2 | The Video Analytics (VA) shall be designed to provide Intelligent Video Analysis for 24/7 surveillance with support for 3rd party devices |
| 3 | VMS, Video analytics preferable of same OEM |
| 4 | The VA configurator shall have easy to use graphical user interface with live alarms list for easy parameter fine tuning and feedback. |
| 5 | The VA alarms shall be recorded in the VMS similarly like other alarms, for example motion detection, audio detection and digital input alarms. |
| 6 | The VMS shall store the VA alarm video and image files for export |
| 7 | The VA shall support video from any camera supported by the VMS. |
| 8 | The VA shall support cameras using any of the video compression formats H.264/MPEG4/MJPEG. |
| 9 | The VMS shall support scheduling so that that VA alarms can be enabled or disabled for a certain period of time. The VA software shall be able to run at least 4 different types of analytics in one single camera. |
| 10 | Calibration |
| | VA Configurator required to configure the analytic engine for best accuracy possible. The configuration of the camera can be done using the given parameters: |
| | The camera height and the tilt angle should be set using the camera setup fields. |
| | The camera field of view |
| | Mimics can be used as a reference for the average human model. |
| | Adding mimics can be done using the right click menu. |
| 11 | Camera Tampering |

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| 12 | Camera Tampering to be shown in different scenarios: |
| | If someone defocuses the camera lens |
| | If someone moves the camera from its FOV |
| | If someone put the cloth on camera |
| | If someone covers the camera lens with hand |
| | If someone put the torch light flash on camera, |
| | If someone put spray on camera lens |
| 13 | Left Baggage/ Abandoned Baggage |
| | Detects and generates an alert highlighting Suspicious objects can be detected when carried into the scene and planted by a person as well as when dropped or thrown into the scene covering following: |
| | Threshold to set from 5 sec to 20 sec. |
| | zone selection from 1 meter to 5 meters or more for detection |
| | Alert preview in analytics configurator. |
| | 20 second video with the alarm. |
| 14 | Enter and Exit Detection |
| | An “object entered” alarm is raised when an object crosses from the outside to the inside of a detection zone. Conversely, an “object exited” alarm is raised when an object crosses from the inside to the outside of a detection zone covering following: |
| | Threshold to set from 5 sec to 20 sec. |
| | zone selection from 1 meter to 5 meters or more for detection |
| | Alert preview in analytics configuration. |
| | 20 second video with the alarm. |
| 15 | Stopping Detection |
| | Objects that are stopped inside a zone for longer than the defined amount of time will trigger the rule and raise an alarm. |
| | Steps: |
| | Threshold to set from 5 sec to 20 sec. |
| | zone or line selection 1 meter to 5 meters or more for detection |
| | Alert preview in analytics configuration. |
| | 20 second video with the alarm. |
| 16 | Object Classification |

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| | VCA can perform object classification once the camera has been calibrated. Object classification is based on properties extracted from the object including object area and speed covering the following: | |
| | Select and calibrate the sizing as per object: e.g. person, animal, vehicle etc. | |
| | Alert whether it is person, animal or vehicle detection and preview in analytics configuration. | |
| | 20 second video with the alarm. | |
| 17 | Objects Counting | |
| | Up to 40 counters linked to the detection rules, provide counting of all detection objects covering following: | |
| | Select and filter the object to be counted e.g. person, animal or vehicle. | |
| | Direction wise counting should be required. E.g. the counter having person entered inside the gate and counter having person exited the gate. | |
| | Option to add counter for the given line/zone. | |
| 18 | Zones and lines - | |
| | Zones and lines should be used on the scene to detect object alert. | |
| | A zone's shape should be changed by clicking on the edge and adding another vertex. | |
| | At least 10 vertex should be added in a single zone | |
| 19 | Crowd detection | |
| | Crowd should be detected in defined zone using area, height and speed parameters of group of people covering following | |
| | Object classification for the size of crowd like area, volume and speed to be detected. | |
| | Alert preview in analytics configuration. | |
| | 20 second video with the alarm. | |
| 20 | Intellectual Property Right (IPR) | |
| | The Intellectual Property Rights of Offered VMS must not reside in Country sharing Land Border with India. The 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. OEM shall provide a declaration about the intellectual property rights as a Documentary Evidence. The OEM with IPR Residing in India shall be Preferable. | |
| 21 | ISO 9001:2015 ISO 27001: 2013 VMS and VA OEM should not be Blacklisted in any government organization. The offered VMS application should have an Application Security Certification from CERT-IN Empaneled Auditors for the VMS as per the OWASP Guideline to Mitigate Cyber Security Attacks. Documents proof to be submitted before the Go-live project. Undertaking from OEM of VMS software for the same must be submitted along with bid | |

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| 22 | Additional Information |
| | Client may ask the bidder to do the Cyber Security audit post implementation though CERT-In empaneled vendor which may be quoted in the financial |
| | Should support remote monitoring of camera up/down status and Audit trail of events using SNMP. |
| | Should support Remote monitoring of camera status and Network Health and Event Monitoring using SNMP / API / SDK in a single central management application. |
| | Edge Storage- min 7 days local recording provision should be there in D1 resolution and should seamlessly get synchronized after network restoration with recording server |
| | ANPR- Should support the ANPR cameras and should archive License Plate records for 90 days in the recording server itself. For each site 2 number of ANPR camera license to be offered. |
| | <p>AI Based Video Analytics (Edge based or Server based or combined)-Object throwing detection, Line Cross detection/ Tripwire, Trespass- For minimum 250 camera/channel licenses to be supplied or as per actual requirement at site.</p> <p>Camera tampering, Scene Change detection, Motion Detection- For all cameras</p> <p>ANPR- 2 Cameras per site (Accuracy of License plate recognition should be min 98%).</p> <p>PTZ based object tracking- As per site</p> <p>People counting and Que Management and Crowd detection- 5 cameras per site.</p> <p>Un Attended Baggage- 5 Cameras per site</p> |
| | Essential tools, drivers, agents to setup, deploy and maintain the system should be embedded inside. There should be a built -in Update manager that can update firmware of system by connecting online as on when required. |

5.3.8 LED Display

| Sl. No | Minimum Specifications | |
|--------|------------------------|----------------------------------|
| 1. | Size | Minimum 55" should be acceptable |
| 2. | Resolution | 4K resolution |
| 3. | Response Time | 8ms or less |
| 4. | Aspect Ratio | 16:09 |
| 5. | RAM | Minimum 2 GB |
| 6. | Storage | Minimum 16 GB |
| 7. | Brightness | Minimum 500 Nits |
| 8. | Horizontal Viewing | 178 Degrees |
| | | Angles/Vertical Viewing Angles |

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| 10. | Analog TV Reception Formats | HDMI and DP port |
| 11. | Video Formats Supported | AVI, MP4, MPEG and others |
| 12. | Image Formats Supported | JPEG, PNG |
| 13. | Speakers | Minimum two nos of speakers having 10 W output per speaker |
| 14. | Connectivity & Port | Minimum One USB Ports and 2 HDMI Ports |
| 15. | Headphone output ports | One |
| 16. | Power requirement | 100 - 240 V |
| 17. | Power Running Consumptions | Less than 150 W |
| 18. | Should must be of reputed brands only. 24x7 Application Model | |

5.3.9 Workstation

| S. No. | Parameters/ Features | Minimum Specification |
|--------|----------------------|--------------------------------------------------------------------------------------------------|
| 1 | Processor | i5 processor, 6-Core, 12M Cache, 2.6GHz to 4.4GHz, 11th Generation |
| 2 | Chipset | Intel/AMD Compatible Chipset |
| 3 | Memory | 16 GB DDR4 RAM expandable up to 64GB with 2 DIMM slots |
| 4 | Hard Disk Drive | 1TB SATA (7200 Rpm) Hard Drive. |
| 5 | Optical Drive | DVD+/-RW drive |
| 6 | Graphics | 4GB UHD Graphic card |
| 7 | Ethernet | Integrated 10/100/1000 Mbps ethernet controller |
| 8 | Slots | 2 PCIe x1 slots, 1 PCIe x16 slot |
| 9 | I/O ports | 8 External USB: 4 x USB 3.2/3.0 and 4 x USB 2.0; 1 RJ-45; 1 VGA Port; 1 HDMI Port; 1 DisplayPort |
| 10 | Audio Port | 1 Universal Audio Jack, 1 Line-out, Internal Speaker |
| 11 | Monitor | 21.5 inch or higher IPS LED Backlit monitor with FHD resolution, TCO Certified (same make as PC) |
| 12 | Keyboard | USB Keyboard (same make as PC) |
| 13 | Mouse | 2 Button USB Optical Mouse (same make as PC) |
| 14 | Operating System | Windows 11 64 Bit preloaded. |
| 15 | Antivirus | Licensed antivirus |

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| 16 | Regulatory Certifications | FCC, UL, ROHS, Windows, Linux. |
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5.3.10 24 port Distribution Switch

| Sl. No | Minimum Specifications | |
|--------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Port Density & Redundancy | 24* 10GE SFP+ & 4*100GE QSFP28 Ports (including 12 x 1G SFP+ modules). RJ-45 console ports for out-of-band CLI management. 10/100/1000BASE-T RJ-45 Ethernet for out-of-band IP management |
| 2 | Power Supply | Redundant Power Supply Support |
| 3 | FAN | 4 Smart Internal Fans |
| 4 | RAM & Flash | 1 GB RAM & 32 MB Flash, MAC Address Table 32K entries, Packet Buffer Memory 4 MB |
| 5 | Switching Capacity | 1280 Gbps or better |
| 6 | Throughput | 900 Mbps or better |
| 7 | Quality of Service | Port base rate limiting(ingress/Egress), 802.3x Flow Control, (DSCP), 802.1p Quality of Service, DSCP, WRED, Strict Priority (SP), Weighted Round Robin (WRR), WFQ, DRR, Bandwidth Control Port-based (ingress/egress, min. granularity 64 Kb/s) |
| 8 | Protocol Support | IGMP Snooping V1, V2, V3, MLD, OSPF, RIP, Static Route, IEEE 802.1s, IEEE 802.3ad , Link Aggregation Control Protocol (LACP), Ipv4/Ipv6, DHCP Option 82, STP, IGMP, MLD |
| 9 | Management | SNMP V1,V2,V3, Web GUI/CLI, IP v6 management feature on open standards, IEEE802.1ab |
| 10 | Security | Should support Access Control Lists (ACLs), DHCP snooping, IEEE802.1x based port authentication, RADIUS/ TACACS+, SSL, port mirroring |
| 11 | Resiliency | IEEE802.1q, IEEE802.1d, IEEE802.1s |
| | | IEEE802.1w, 802.3AD, VRRP |
| 12 | Operating Temperature | 0 to 50 Deg |
| 13 | Safety Certifications | BSMI/LVD/CE/FCC/UL & Industrial Cyber Security Capability (Like - IEC-62443-4-1:2018 or Equivalent) |
| 14 | MAF and compliance | On OEM Letter Head |
| 15 | Warranty certificate | Warranty certificate shall be submitted at the time of supply. The warranty certificate shall be from the OEM of the item. |

5.3.11 8 Port Layer 2 PoE Gigabit Switch

| Sl. No. | Minimum Specifications |
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| 1 | Switch Hardware Specification |
| | Switch with at least 8 X RJ-45 PoE Gigabit Ethernet Ports and additional 2 X 1G SFP/45 Dual personality Ports (Populated) |
| | Switching capacity should be 20Gbps or higher or non-blocking architecture. |
| | Switch packet forwarding rate should be 14Mpps or higher or non-blocking architecture. |
| | Switch MAC table should be at least 8K or higher. |
| | Switch should delivered 802.3at PoE+ and 802.3af PoE power to any of the PoE RJ-45 ports. |
| | The total power available for PoE switch should be 130W or higher. |
| | Switch should be standard 19 inch 1U rack mountable. |
| | Support for the Energy Efficient Ethernet (IEEE 802.3az) standard. |
| | Power input should be 100 to 240 V AC 50/60 Hz internal universal power supply |
| | Operating temperature should be 0 degree Celsius to 50 degree Celsius. |
| | Certification: RoHS , BSMI, UL, MTCTE |
| 2 | Switch Software Specification |
| | Support Jumbo Frame up to 9 K Bytes or higher. |
| | Supports IGMP/IGMP snooping v1, v2, v3 |
| | Should support MLD Snooping |
| | Should have 802.1D STP, 802.1w RSTP and 802.1s MSTP Spanning Tree Protocol. |
| | Should support L2 Multicast, IGMP Filtering |
| | Switch should support IEEE 802.1Q VLAN tagging for Ethernet frames. |
| | Port based rate limiting ingress / egress rate limit function |
| | Switch should support ACL Packet Filtering (IPv4/IPv6) |
| | Should support port security to secures the access port based on MAC address. |
| | should have broadcast, multicast, and unknown unicast storm control to prevents faulty end stations from degrading overall systems performance. |

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| | Support Traffic Segmentation to restricted traffic flow from a single or group of ports, to another group of ports. |
| | Should have SSHv2, TLS V1.0 |
| | Should support 802.1X port-based authentication. |
| | Should support ARP inspection |
| | Should support DHCP snooping IPv4 and DHCP Snooping IPv6 |
| | Should support 802.1X VLAN and 802.1p assignment by radius |
| | Able to manage through Web-GUI |
| | Should support SNMP v1, v2c, v3 and SNMP Trap group and Remote Monitoring (RMON). |
| | Should have dual Image support |
| | Should have NTP/SNTP Server (IPv4/IPv6) |
| | Should support Link Layer Discovery Protocol (LLDP) and LLDP-MED. |
| | Note |
| | Switch should be supplied with the all-necessary components like Power cord, Rack-mount bracket, Installation Guide, etc. and necessary software image file to fulfil all above mention feature set from day 1. |
| 3 | Support Traffic Segmentation to restricted traffic flow from a single or group of ports, to another group of ports. |

5.3.12 1G Single Mode Fibre Module

| Sr. No. | Minimum Specification |
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| 1 | Hot-pluggable SFP footprint Single mode SFP, RoHS compliant (lead-free), Commercial temperature range (0°C to 70°C), Single 3.1 to 3.5V power supply, Maximum link length of 10km, Uncooled 1310nm DFB laser, Receiver limiting electrical interface, LC connector, |
| 2 | Built-in digital diagnostic functions |
| 3 | Swappable Design Facilitates Network Maintenance |
| 4 | Transmit power range: Output Optical Power (TX Optical Power): -1 to -6.5 dBm, Input Optical Power (RX Optical Power): -1 to -11 dBm, Maximum current: 300 mA, Relative Humidity: 0% ~ 85% |
| 5 | Safety Certification: RoHS Compliant Compliant with MSA (Multiple Source |

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| | Agreement) |
| 6 | Class 1 laser product (complies with EN60825-1), EMI CE, FCC, VCCI, Safety UL, TUV, CDRH |

5.3.13 Video Recording Server cum Storage

| Sl. No. | Parameter | Minimum Specification |
|---------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | General | i.) The Server box should be BIS certified hardware from the Camera Make or leading Server OEMs. BIS certificates of proposed model t to be submitted by the bidder. ii) The proposed solution should include video feed processing unit and recording for 1 months at each Prison along with accessories like keyboard, mouse etc. iii) The system will have VMS software installed/Embedded on it and will allow both - administrative features and operator features to be performed from same system. iv) The system should be able to manage live feed of all cameras (min 128 per box) at full HD resolution @ 25 FPS. v) The proposed system should be rack mountable and 24X7 operational as per SLA terms of the RFP for entire project period. vi) The server box must support hot pluggable redundant power supply from Day 1. |
| 2 | Server & Storage Box Processor and Memory | To be configured using suitable X86 Architecture Processor supporting up to 128 number of Full HD (1920 X1080 Camera Streaming and recording) |
| 3 | Server & Storage Box HDD Support | Each Server to be supplied with Usable HDD space mentioned in BOM, with 7200 RPM HDDs from Day 1" |
| 4 | HDDs & Recording Configuration (Both Primary & Secondary Storage) | To be configured in RAID 5 from Day 1 |
| 6 | Networking ports and features | The server cum storage box should have 2 no. of onboard 1Gb network port. |
| 7 | Fiber Port | 4, gigabit Ethernet/ SFP interface |
| 8 | USB Port | Min 2 no. USB 3.0 |
| 9 | Security Feature | To be configured from Day 1- Power-on password, Administrator's password. |
| 10 | Operating Systems | Preloaded with licensed OS version (OS as per bidder solution) for entire contract period from Day 1. |

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| 11 | Operating Temperature | 0 to 35 Deg C |
| 12 | Storage calculation method | Number of Camera: As per each site FPS: 25 Hours per day: 24 Number of Days Storage: 30 Days Resolution: 1080p |

5.3.14 UPS 05 KVA with 30 minutes backup on full load

| Sl. No | Minimum Specifications | |
|--------|------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1 | Electrical Characteristics | |
| | Technology | Online double conversion |
| | Input voltage | 220/230/240V |
| | Input voltage range without using batteries | 175V – 280V at Full Load |
| | Output voltage/THDU | 220V/230V/240V $\pm 2\%$, THDU<3% |
| | Input frequency range | 45Hz-66Hz, 50/60Hz auto selection |
| | Efficiency | Up to 92% in Online mode, up to 97% in ECO mode |
| | Overload capacity | 105%-110% : 3min, 110%-130% : 30min, 130%-150% : 10s |
| 2 | Communication | |
| | Communication ports | 1 USB port + 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously) |
| | Communication slot | 1 slot for Network M2, ModBus-MS or Relay-MS cards |
| | UPS Should be SNMP/ICMP enabled | |
| 3 | Operating conditions, Standards and Approvals | |
| | Operating temperature | 0 to 40°C |
| | Noise level | <55dB @ typical load |
| | Safety | IEC/EN 62040-1 |
| | EMC, Performance | IEC/EN 62040-2 |
| | Approvals | CE/ CB report (TUV) / EAC/ BIS |
| 4 | Connections | |
| | Input | Single phase in |

| | | |
|---|-------------------------------|---------------------|
| | Outputs | Single phase out |
| 5 | Minimum Battery Configuration | 42 AH x 12V, Qty-15 |
| 6 | Rack for UPS and batteries | Included |

5.3.15 1 KVA UPS with battery backup of 30 min. on full load (rack mount)

| Sl. No | Minimum Specifications | |
|--------|------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1 | Electrical Characteristics | |
| | Technology | Online double conversion |
| | Input voltage | 220/220/230/240V |
| | Input voltage range without using batteries | 175V – 280V at Full Load |
| | Output voltage/THDU | 208V*/220V/230V/240V $\pm 1\%$, THDU<3% |
| | Power Capacity | 800 Watts minimum (1000VA) online UPS |
| | Input frequency range | 40Hz-70Hz, 50/60Hz auto selection |
| | Efficiency | Up to 85% in Online mode |
| | Overload capacity | 105%-130% : 60s, 130%-150% : 10s, >150% : ≥ 300 ms |
| 2 | Communication | |
| | Communication ports | 1 USB port + 1 RS232 serial port (USB and RS232 ports cannot be used simultaneously) |
| | Communication slot | 1 slot for Network M2, Modbus-MS or Relay-MS cards |
| | UPS Should be SNMP/ICMP enabled | |
| 3 | Operating conditions, Standards and Approvals | |
| | Operating temperature | 0 to 40°C |
| | Noise level | <50dB @ typical load |
| | Safety | IEC/EN 62040-1 |
| | EMC, Performance | IEC/EN 62040-2 |
| | Approvals | CE/ CB report (TUV) / EAC/BIS |
| 4 | Connections | |
| | Input | Single phase in |
| | Outputs | Outputs 3 Socket or more |
| 5 | Battery Configuration | 42 AH x 12V, Qty-3 |

| | | |
|---|----------------------------|----------|
| 6 | Rack for UPS and batteries | Included |
|---|----------------------------|----------|

5.3.16 Chemical Earthing

- 6 Bidder shall be responsible for the erection of Chemical earthing of Sheet metal/ iron clad Switches and metallic cases etc., with 3 mtr long copper bounded pipe (76mm dia) including erection of the same, 3 metre below ground level with necessary Ground Resistance Improvement Powder (BackFill Compound), including boring & refilling, watering tank etc. and making connections to the distribution with 4mm dia copper wire in heavy guage PVC pipe (including cutting and filling up of chases, as required at site. Resistance of the earthing should not be more than one ohm.

6.3.16 42U Rack

| Sl. No | Minimum Specifications |
|--------|-----------------------------------------------------------------------------------------------------------------------|
| 1 | 42U Usable Space with 600mm Wide x 1000mm |
| 2 | 4 No. of fan (230V A/C 90 CFM fan mounted on top cover) |
| 3 | Shelf's for Required servers |
| 4 | Power distribution box 2 no with 5 sockets each |
| 5 | Floor Standing side panel open |
| 6 | Rack have front doors of tinted glass and lock |
| 7 | 19" 42U 600x1000 Floor Standing Rack for Servers 1 nos. Monitor Tray and Cooling Fan with 2 Fans & Power Distribution |
| 8 | 2 Cable Manager, Hardware Packet (2 Pkt) , Stationary Shelf |
| 9 | Should confirm DIN41494 |
| 10 | Key board Tray |

6.3.17 15U Network Outdoor Rack:

| Sr. No. | Minimum Specifications |
|---------|-----------------------------------------------------------------------------------------------------------------------------|
| 1 | Size: 550mm W x 550mm D |
| 2 | IP rating: IP55 or better |
| 3 | Standards: Conforms to DIN 41494 or equivalent. |
| 4 | Grounding & Bonding: Options available. 100% assured compatibility with equipment conforming to DIN 41494. |
| 5 | Mounting Options: Pole/Wall-Mount with optional Floor/Base-mounting provision. |
| 6 | Construction: Welded GI steel, Minimum 1.5mm thickness, front accessibility. |
| 7 | Color: Dual-tone grey powder coating (RAL 7035/7037 Combo). |
| 8 | Front Door: Equipped with filter, louver, & unique key lock. Material: Galvanized steel with anti-corrosive powder coating. |
| 9 | Cooling: Two 90CFM, 230V AC fans on front door & top cover for rainwater & dust resistance. |
| 10 | Thermal Management: Self-adhesive thermal foam installed inside. |

| | |
|----|------------------------------------------------------------|
| 11 | Door Hinges: 2 Nos. |
| 12 | Gasket: As per IP55 standard. |
| 13 | Hood for Air Inlet: Front side. |
| 14 | Integrated Side Panels: Welded with canopy & bottom cover. |
| 15 | Rigid Frame: For pole fixing. |
| 16 | Internal Components: |
| 17 | 19" Angles: 2 Nos. for equipment mounting. |
| 18 | Horizontal Cable Manager: 1U loop type – 1 No. |
| 19 | 6 Socket 5Amp PDU: 1 No. |
| 20 | Load Capacity: 80 kgs or more (static load). |
| 21 | ISO 45001, ISO 9001, ISO 14001, ISO 27001. |

6.3.18 PLB HDPE Duct

| Sr. No. | Description | Parameter |
|---------|---------------------|---------------------|
| 1 | Single Piece Length | Upto 200-300 Meters |
| 2 | Application | Telecom |
| 3 | Thickness | 3.5mm |
| 4 | Color | Blue/ Orange |
| 5 | PN Grade | 16 |
| 6 | Packing Type | Coil |
| 7 | Pressure | PN 16 |
| 8 | Diameter | 40mm OD/ 33mm ID |
| 9 | Packaging Type | Coil |
| 10 | Weight | 380gms/ Meter |
| 11 | Temperature | 60DEG. C |
| 12 | Usage/Application | TELECOMDUCT |
| 13 | Material | HDPE |
| 14 | UVResistant | Yes |
| 15 | Size Range | 40mm OD/ 33mm ID |
| 16 | Certification | ISI |

6.3.19 12 Core OFC: Unitube, Gel filled cable

| S. No. | Minimum Specifications |
|--------|---------------------------------------------------------------------------------------|
| | 12 Core, single mode, outdoor Unitube, Gel filled Cable |
| | Single Mode Attenuation : @ 1310 nm - ± 0.36 dB/km & @ 1550 nm - ± 0.22 dB/km |

| | |
|--|--------------------------------------------|
| | Tensilerating:1200N |
| | MaximumCrushresistance:2000N |
| | Outer sheath: HDPE |
| | Inner sheath: PE |
| | Operating Temperature:(-)05degCto(+)70DegC |

6.3.20 Cat-6ArmouredCable

| Sr. No | Minimum Specifications |
|--------|----------------------------------------------------------------------------------------------------------------------------------|
| a. | Cable Shielding: HDPE Outer Jacket with Steel Tape/ Aluminium wire armouring for ruggedized purpose |
| b. | Cable: Should be Cat-6, UTP 23 AWG. |
| c. | Pairs: 04 pairs |
| d. | Bend Radius:10x Diameter (min.) |
| e. | Cables should be UL/CPR certified/ EIA/TIA 568.C.2 |
| f. | OEM should have ISO 9001:2008 Certification for Quality Management System |
| g. | All cables at field locations/ signal points must be concealed (i.e. inside the pole or underground laying shall be done by SI). |

6.3.21 Fiber Optic Simplex Pigtails LC Type9/ 125µm

| Sl. No | Minimum Specifications |
|--------|---------------------------------------------------------------------------------|
| 1 | Type: 9/125 micron fibre performance |
| 2 | Jacket Material: LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2 |
| 3 | Operating Temperature: -10°C to +60°C |
| 4 | Connector Insertion Loss: 0.30dB(Max) |
| 5 | Attenuation: 1310/1550 : 0.36/0.22 dB/KM |

6.3.22 Patch Cord, LC, Duplex, SM, G657A2, PC, LSZH(G652D standard complied

| Sl. No | Minimum Specifications |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Cable : LC-LC 9/125µm OS2 Single mode Duplex Patch Cord Length : 3mtrs |
| 2 | Connectors: The optical fiber patch leads shall comprise of Single mode 9/125µm fiber with 2XLC type fiber connectors terminated at each end of fiber patch cord. |
| 3 | Insertion loss should be better than 0.35 dB |
| 4 | Jacket Material : LSZH complying to IEC 61034-1 & 2, IEC-60332-1, IEC-60754-1 & 2 |
| 5 | Attenuation: 1310/1550 : 0.36/0.22 dB/KM |
| 6 | Connector Loss : 0.30dB(max) |
| 7 | Operating Temperature: -10°C to +60°C |

6.3.23 Fiber LIU (12 Port fully loaded)

| Sl. No | Minimum Specifications |
|--------|--------------------------------------------------------------------------------------------------------------------------|
| 1 | Fiber optic patch panel FMS Termination Drawer should have sufficient slots to accommodate 12/24 Port LC Adaptor Plates. |
| 2 | Should have Slide type drawer structure |
| 3 | Height: 1 U, 1.75 inches (12 & 24 Ports) |
| 4 | Material: Cold Rolled Steel in surface coated by electrostatic epoxy powder |
| 5 | Slots: FMS should have sufficient slots to accommodate adaptor plates |
| 6 | Empty Slots of FMS should be covered with blank plates. |
| 7 | Splice Tray: Splice Tray should be supplied with LIU. |

6.3.24 Cat6 UTP RJ 45 Keystone Jack

| Sl. No | Minimum Specifications |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Suitable for 1GBase-T applications in acc. with IEEE 802.3an up to 250 MHz and 55m. |
| 2 | Compatible with RJ standard plugs (RJ45), PCB- and tool based connection of installation cables AWG 24 – 22 (0.5 mm – 0.65 mm) and flexible cables AWG 26/7 – AWG 22/7. |
| 3 | IDC termination should feature nil crossover in acc. with EIA/TIA 568-A/B, gold-plated bronze contacts for >750 mating cycles, >200 insertion cycle |
| 4 | Material: RoHS complied |
| 5 | Should be available with or without dust protection feature |

| | |
|---|--------------------------------------------|
| 6 | Should be 3P/Delta certified or equivalent |
|---|--------------------------------------------|

6.3.25 Patch Cord, U/UTP 4P, Cat.6, length 1.0/3.0m

| Sl. No | Minimum Specifications |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Standardization: Compliant with Cat.6, Class E requirements: ISO/IEC 11801 2nd Edition Compliant with Cat.6 component standards IEC 60603-7-4 and 60603-7-5 |
| 2 | Cable shield: U/UTP |
| 3 | Number of conductors: 8 |
| 4 | Stranding: 7 x 0.20 mm (24 AWG) |
| 5 | Cable jacket characteristics: cable, metal-free |
| 6 | Cable overall diameter: 5.80 +/-0.20 mm |
| 7 | Tube / Wire type: stranded conductor |
| 8 | Insulation: HDPE, 0.97±0.05 mm diameter or equivalent |
| 9 | Plug: Feature cable retention, with enhanced pull strength. |
| 10 | Cat 6 patch cord plug to have round cable holder and strain relief boot to avoid bending. |
| 11 | Jacket: LSZH with 8 different color options |
| 12 | Plug should have high repeatability cross talk performance |

6.3.26 19" 1U/2U 24 port unshielded Patch Panel

| Sl.No | Minimum Specifications |
|-------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Patch panel should be modular design, populates up to 24 UTP keystone-type jacks/Freenet jacks in 1U |
| 2 | Patch panel should be Enhanced with cable strain relief with retention tray; It should be single metal both front panel and rear tray |
| 3 | Material: Cold rolled steel as a raw material. |
| 4 | Information Outlet or connecting module should comply with the specification mentioned above in 2 |
| 5 | Standard: Keystone support collapsable shutter keystone or equivalent |
| 6 | Should be RoHS complied |
| 7 | Patch panel should be modular design, populates up to 24 UTP keystone-type jacks in 1U |

| | |
|---|---------------------------------------------------------------------------------------------------------------------------------------|
| 8 | Patch panel should be Enhanced with cable strain relief with retention tray; It should be single metal both front panel and rear tray |
|---|---------------------------------------------------------------------------------------------------------------------------------------|

6.3.27 19" 1U 48 port unshielded Patch Panel

| Sl. No | Minimum Specifications |
|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Patch panel should be modular design, populates up to 48 UTP keystone-type jacks/Freenet jacks in 1U |
| 2 | Patch panel should be Enhanced with cable strain relief with retention tray; It should be single metal both front panel and rear tray |
| 3 | Material: Cold rolled steel as a raw material. |
| 4 | Information Outlet or connecting module should comply with the specification mentioned above in 2 |
| 5 | Standard: Keystone support collapsible shutter keystone |
| 6 | Should be RoHS complied |
| 7 | Patch panel should be modular design, populates up to 48 UTP keystone-type jacks in 1U |
| 8 | Patch panel should be Enhanced with cable strain relief with retention tray; It should be single metal both front panel and rear tray |

6.3.28 Field Termination Plug:

| Sl. No | Minimum Specifications |
|--------|----------------------------------------------------------------------|
| 1 | RJ45 modular plug supports 4 twisted pairs, 8 positions 8 connectors |
| 2 | Housing: PC, UL94V-2, transparent color |
| 3 | Contact Terminal: Copper Alloy |
| 4 | Finished: 03MU micro-inch |
| 5 | Operating temperature: -10°C to +50°C |
| 6 | Use for 24-26 AWG stranded wires, |

6.3.29 Additional clauses

It is bidders' responsibility to provide sufficient hardware to run all analytics asked in the tender simultaneously for 30% of the camera asked. Sizing of the hardware shall be the responsibility of Analytics OEM and sizing sheet should on respective OEM letter head shall be the part of bidder's technical proposal. Failing the same, bid shall be considered as incomplete and may disqualify.

Section 6: Service Level Agreement (SLA)

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

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

- a) There is a force majeure event effecting the SLA which is beyond the control of the successful Bidder
- b) The non-compliance to the SLA has been due to reasons beyond the control of the bidder. Theft cases by default would not be considered as "beyond the control of bidder". However, certain cases, based on circumstances & certain locations, police may agree to qualify as "beyond the control of bidder". Damages due to Road Accident / Mishap shall be considered as "beyond the control of bidder". However, Power shut down or deliberates damage to camera / Pole would not be considered as "beyond the control of bidder".

The Service Levels defined are meant to enforce the successful bidder to abide by certain parameters which are defined in the subsequent section for the successful execution of the project during the implementation and maintenance phase. The levels are always defined between client and vendor; in case of this bid it will set between Punjab Police Housing Corporation as client and successful bidder as vendor.

6.1 Definitions

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

"Uptime" shall mean the time period for the specified services / components with the specified technical service standards are available to the user department. Uptime, in percentage, of any component (Non-IT & IT) can be calculated as: $\text{Uptime} = \{1 - [(\text{Downtime}) / (\text{Total Time} - \text{Maintenance Time})]\} * 100$

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

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

"Helpdesk Support" shall mean the 24 x 7 x 365 center which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.

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

"Planned Downtime" Any planned application / server downtime would not be included in the calculation of application/server availability. However, the Successful Bidder should take at least 10 days prior approval from Punjab Police Housing Corporation in writing for the planned outage, which should not be for more than 30 minutes, would be in lean period (non-movement period, like post mid-night) and limited

to max. 12 outages in a year. In case of planned outages at Data Centre level, services of other Data Centre services to be used to service the clients, while there would be no planned outages for Cameras.

6.2 Project Timeline

| Sr. No. | Activity | Timeline |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 1 | Site Survey and Preparation of all drawings and actual BOM | T1+02 weeks |
| 2 | Supply of all passive and electrical items of materials at site | T1+04 Weeks |
| 3 | Supply of all active component cameras, servers, storage box, switches etc. at site | T1+08 Weeks |
| 4 | Completion of Backbone Infrastructure and commencement of commissioning of active items | T1+11 Weeks |
| 5 | Completion of Backbone Infrastructure and completion of commissioning of active items subject to site readiness and Testing, User Training, Handover and Go Live of entire system after Final Acceptance Testing (FAT): | T1+ 3 months |
| 6 | Comprehensive Maintenance of the Project Post Go-Live | T1+36 Months |

T: Date of Issue of Letter of Acceptance to the successful bidder.

T1: Date of Issue of Letter to Proceed Ahead

6.3 Service Level Agreement Terms:

| SL. No. | Project Activities | Base Timeline | Penalty |
|---------|-----------------------------------------------------------------------------------------|---------------|-----------------------------|
| 1 | Site Survey and Preparation of all drawings and actual BOM | T1+02 weeks | 25,000.00 per week of Delay |
| 2 | Supply of all passive and electrical items of materials at site | T1+04 Weeks | 25,000.00 per week of Delay |
| 3 | Supply of all active component cameras, servers, storage box, switches etc. at site | T1+08 Weeks | 25,000.00 per week of Delay |
| 4. | Completion of Backbone Infrastructure and commencement of commissioning of active items | T1+11 Weeks | 25,000.00 per week of Delay |
| 4. | User acceptance Testing (UAT) +Go-Live | T1+3 months | 25,000.00 per week of Delay |

Note: Maximum penalty shall not be more than 10% of CAPEX value. If the total penalty is more than 10%, Punjab Police Housing Corporation may terminate the contract and forfeit the PBG.

6.4 Payment terms

| S.NO | PAYMENT TERMS | PAYMENT |
|------|---------------|---------|
|------|---------------|---------|

| | | |
|---|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Delivery and Inspection of Hardware/ Equipment at Site/ PPHC Stores | Up-to 60% of Project value (CAPEX) on prorata basis. |
| 2 | Installation, testing & commissioning | Up-to 10% of Project value (CAPEX) on prorata basis. |
| 3 | Final acceptance test by the deptt. and Go Live of the Project as per the definition mentioned in RFP. | Up-to 20% of Project value (CAPEX) on prorata basis. |
| 4 | Free AMC/ Warranty Period: | <p>i) 10% of CAPEX will be paid in 4 Quarterly Installments on prorata basis after the end of each quarter, during free AMC period, after verification of SLA's as per the satisfaction of PPHC.</p> <p>ii) Payment against MPLS connectivity will be released at the end of each quarter.</p> |
| 5 | Additional comprehensive AMC Period: | Payment of OPEX and MPLS connectivity will be released on monthly basis, on production of bill and EPF and ESI payment receipt. |

6.5 SLA Matrix for Post Implementation SLAs:

| SL. No. | Fault Resolution-SLA | Time allocated | Penalty (in % percentage) |
|---------|------------------------------------------------------|-------------------|--------------------------------|
| 1. | Call Logging in System | <15 min. | No Penalty |
| | | >15min<30 min | 0.5% of QGR |
| | | >30min< 1 Hrs | 1.0% of QGR |
| | | > 1 Hrs< 4 Hrs | 5.0% of QGR |
| | | > 4 hrs. | 10 % of QGR |
| 2. | Call Resolution (in case of non-IT hardware failure) | <1 Hr. | 0% |
| | | >1 Hr. <4 Hr. | 0.5% of the unit hardware cost |
| | | >4 Hrs< 8 Hrs | 1% of the unit hardware cost |
| | | > 8 Hrs< 24 Hrs. | 5% of the unit hardware cost |
| | | > 24 Hrs | 10 % of the unit hardware cost |
| 3. | Hardware repair/replacement (CCTV cameras) | =12 Hrs | 0% |
| | | >24 Hrs, < 36 Hrs | 0.5% of the unit hardware cost |
| | | > 36 Hrs< 48 Hrs | 1% of the unit hardware cost |
| | | >3 Days <5 Days | 5% of the unit hardware cost |

| | | | |
|----|-------------------------------------------------------------------------|-------------------|-------------------------------------|
| | | > 5 Days | 10 % of the unit hardware cost |
| 4. | Hardware repair/replacement (UPS, NVR/ Server, Desktop, Videowall etc.) | =48 Hrs | 0% |
| | | >48 Hrs, < 60 Hrs | 0.5% of the unit hardware cost |
| | | > 60 Hrs< 72 Hrs | 1% of the unit hardware cost |
| | | >3 Days <5 Days | 5% of the unit hardware cost |
| | | > 5 Days | 10 % of the unit hardware cost |
| 5. | System availability (application and server, VMS,) | >98% | No Penalty |
| | | <98% ≥97% | 0.5% of QGR |
| | | <97% ≥ 96% | 1.0% of QGR |
| | | < 96% >95% | 5.0% of QGR |
| | | <95% | 10 % of QGR |
| 6. | Manpower Availability | >99% | No Penalty |
| | | <99% ≥98% | 0.5% of non-available manpower cost |
| | | <98% ≥ 97% | 1.0% of non-available manpower cost |
| | | < 97% >96% | 5.0% of non-available manpower cost |
| | | <96% | 10% of non-available manpower cost |

Note:

- Maximum penalty shall not be more than 10% of OPEX value
- The proposed SLA matrix is indicative. The Department will sign a SLA with the successful bidder with mutually agreeable terms.
- For each service call (in case of non-hardware failure), separate penalty shall be calculated. However, the total penalty values shall not be greater than 10 % of the OPEX value.
- For each hardware failure, separate penalty shall be calculated. However, the total penalty values shall not be greater than 10 % of the OPEX value.
- SLA reports & Preventive maintenance report is a prerequisite of release of QGR payment. However, for any delay in SLA & preventive maintenance report a flat penalty of INR 10,000 shall be imposed.
- SI may provision standby arrangements of hardware to meet the SLA.

6.6 Acceptance Testing Procedure:

Acceptance testing is an essential part of large-scale implementation project. The primary goal of Acceptance Testing is to ensure that the solution implemented meets the pre-defined requirements/

specifications for functionalities, performance and security this is ensured by defending clear, quantifiable metrics for accountability for each of the following:

- ICT Infrastructure including network connectivity & hardware components
- Application and integration
- Project deliverables

Punjab Police Housing Corporation Project Management Team (PMT) will carry out the acceptance testing.

The representative of the Bidder \ SI may be present during the acceptance testing & even in case he is not present the acceptance testing proceedings will be binding on the SI and the corrections/ modifications suggested should be carried out by the SI. The Punjab Police Housing Corporation PMT will ensure that it will commence acceptance testing expeditiously & complete it at the earliest once the system/ document is provided by the SI for acceptance. The mutually agreed time frames for completion of the Acceptance Testing are to be laid down & adhered to. If certain minor problems persist, the Punjab Police Housing Corporation PMT may proceed with the Acceptance Testing & make mention of the same in the ATP proceedings. The balance can be pursued subsequently, and a supplementary ATP can be carried out. The different acceptance tests & the acceptance criteria to be adopted are mentioned below:

6.7 Acceptance Testing for ICT Infrastructure including Hardware Component and Network Connectivity

The selected bidder shall finalize an Acceptance Test schedule at least 15 days in advance in consultation with Punjab Police Housing Corporation. He shall also clearly indicate the specifications clause(s) verified by each test. The Acceptance Test schedule shall be exhaustive based on the specifications and will generally cover the following:

- Hardware and network equipment testing before commissioning
- Check on Data cabling, electrical cabling and other wiring
- Setting up of the test environment
- Functional test on individual equipment, network, software, reporting etc. as per specifications
- System and/ or integration test on solution as a whole
- Capacity/ Load test
- 100% traffic trials on the network.

6.8 Site Préparation Acceptance:

Punjab Police Housing Corporation or their representative will perform the site acceptance testing to ensure the command & control Room site which includes installation of hardware, quality and completeness of cabling (both networking, electrical), environment control etc. is following the specifications/ requirements of the project. Any deviations/ gaps identified in the site preparation acceptance will have impact on the payments to be made to the SI.

6.9 Infrastructure Compliance Review:

On receipt of hardware delivered by the Bidder/ SI, Punjab Police Housing Corporation will physically check all packages & boxes to check that the items are received as against the quantities & specifications indicated by the SI in its Proposal. All system software being provided must be the latest & complete with all manuals. They must include the licenses, media (CD ROM) and certificate of authenticity. On establishment of the network, installation & integration of the various components of the networks, Punjab Police Housing Corporation will carry out acceptance testing of the network/ integrated system to verify

the conformity of the performance against the requirements and specifications provided in the Bid and/or as proposed in the proposal submitted by SI.

All the software licenses that System Integrator (SI) proposes shall be perpetual software licenses. The software licenses shall not be restricted based on location and the PPHC/ Jail department shall have the flexibility to use the software licenses for other requirements if required.

6.10 Final Acceptance Testing:

Pre-requisites of Final Acceptance shall have the following:

- Installation & commissioning of all hardware, software supplied under this RFP
- All documentation related to Punjab Police Housing Corporation and relevant acceptance test document (including IT Components, Non-IT components).
- Installation and commissioning shall include:
 - 1) Installation and Commissioning of IT, non - IT components at Command & Control Center and in Data Center
 - 2) All hardware and software items must be installed and commissioned at Command & Control Center and Data Center as per the specification.
 - 3) Availability of all the defined services shall be verified and mutually agreed between Punjab Police Housing Corporation and the successful bidder
 - 4) The Bidder/ SI shall be required to demonstrate all the features / facilities/ functionalities as mentioned in the RFP

6.11 Integration Testing:

After the entire development cycle is over, all the components have to be tested end to end; System Integration Testing (SIT) would be done. Here SI has to demonstrate the system in a controlled production environment. The SI will carry out the Integration testing to ensure the integration Command and Control Center is working properly. The SI will submit the Test plan, Test cases & the Test Data prior to carrying out the Integration test. The test plan will include the expected results. After the test, the SI will submit the test results which would be used to compare the actual observed results recorded during the test against the expected results. The observations/ shortfalls/ errors detected will be rectified by the Bidder / SI.

This phase will include the following activities:

- Test Planning
- Test Data Preparation
- Mock User Acceptance Test
- Mock Parallel Runs
- Problem Resolutions

6.12 User Acceptance Test:

For conducting the User Acceptance Testing, Punjab Police Housing Corporation will identify the employees from respective divisions/units/verticals, who shall be responsible for day-to-day operations of the functions automated through the Command & Control solution. The system should necessarily satisfy the user acceptance testing process. The Command & Control solution Implemented/ customized by SI shall be reviewed and verified, against the Functional & Technical Requirements signed-off between Punjab Police Housing Corporation and SI. Any gaps, identified as severe or critical in nature, shall be addressed by SI immediately prior to Go- live of the solution. One of the key inputs for this testing shall be the traceability matrix to be developed by the SI for Command & Control solution. Apart from Traceability

Matrix, SI may develop its own testing plans for validation of compliance of system against the defined requirements.

6.13 Performance Review:

Performance is another key requirement for the project and Punjab Police Housing Corporation will review the performance of the deployed solution against certain key parameters defined in SLA. Such parameters include request-response time, work-flow processing time, concurrent sessions supported by the system, disaster recovery drill etc. The performance review also includes full load/ stress test using suitable simulation tools prior to Go Live once the integration test has been successfully completed. The Command & Control system would be considered ready to Go Live on successful completion of load/ stress testing

The bidder shall make available the software programs and testers required for carrying out the acceptance tests as per the schedule. Any additional test equipment deemed required during validation shall be arranged by the bidder at no cost to Punjab Police Housing Corporation, so as to complete the validation as per the specified time schedule in this document. The bidder shall indicate whether the software package includes programs for testing the Data Center under full load conditions and overload conditions by creation of artificial data in consultation with Punjab Police Housing Corporation. Such test program shall be provided by the bidder for the limited purpose of testing.

Punjab Police Housing Corporation may carry out all the tests detailed in the acceptance test schedule to confirm that the performance of the different modules, subsystems, and entire installation satisfies the specified requirement of specifications including service performance

Any deficiency found during validation in performance of the system as per the requirement shall be rectified by the bidder immediately at all the locations. Any components or modules failing during the acceptance tests or requiring alterations necessary to meet specification requirements shall be replaced at no extra cost to the Purchaser at site by the selected bidder in consultation with Punjab Police Housing Corporation. These shall be shipped within two weeks of the initial reports.

6.14 Additional Conditions:

- 1) OEM certified Compliance Sheet for the products mentioned in the BOQ must be submitted alongwith tender.
- 2) The contractor shall not be entitled for any payment on account of work done till the agency signs the agreement and the same is accepted by the competent authority. The payment will be released on Pro-Rata basis.
- 3) Unless otherwise specified in the schedule of quantities, the rates for respective items shall be all inclusive and apply to the following: -
- 4) All lifts & all heights, floors including terrace, leads and depths.
- 5) All taxes, duties, transportation charges up to site, octroi, insurance charges, tools and plants, labour, tools and plants and other inputs involved in the execution of the item.
- 6) Any of the conditions and specifications mentioned in the tender documents.
- 7) Performance test of the entire installation(s) before the work is finally accepted.
- 8) All incidental charges for cartage, storage and safe custody of materials brought to site.
- 9) No escalation over the quoted rates shall be admissible during execution of work.
- 10) The contractor shall be responsible for the watch and ward / guard of the material/services, safety of all fittings arranged/ installed by him against pilferage till the work is handed over to the Department. No extra payment shall be made on this account.
- 11) The work should be planned in a systematic manner so that trench/ chase cuttings in the buildings/ roads is minimized.
 - a) Contractor shall take all precautionary measures to avoid any damage to Govt. infrastructure. All necessary arrangement shall be made at his own cost. After installation work the vendor must restore any area that might have been disturbed during the process.
- 12) The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.
- 13) All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- 14) The Contractor will have to submit 'As built drawings' and Operating/Maintenance Manual (in duplicate) after completion of work. Final payment of the work will be released after submission of these documents.
- 15) In case the firm does not adhere to the OEM's maintenance schedule attending of complaints as mentioned above, the same shall be got done and attended to at the risk and cost of firm and amount the expenditure incurred will be recovered from the firm from his pending dues/ security deposit.
- 16) Works shall be executed strictly in accordance with the specifications mentioned in this DNIT and as per Punjab Public Works Department Specifications wherever applicable and to the entire satisfaction of the Engineer-in-charge.
- 17) The Executive Engineer reserves the option to take away any item of work or any part thereof at any time during the currency of contract and to reallocate it to any other agency with due notice to the Contractor without liability of any kind of payment or any compensation.
- 18) Any material left at site on month after completion of work shall become the property of the PPHC and no payment shall be made to the contractor for the material.

- 19) The contractor has to make own arrangement for all items/all materials required directly or indirectly for completion of work at his own cost.
- 20) Surplus earth from excavation of foundations shall be placed by the contractor at the places approved by the Engineer-in-charge.
- 21) The contractor will make his own arrangements for water required for works. If he does not arrange water at his own level and use water from some Govt. sources, recovery as applicable shall be made.
- 22) The arrangement of Electric supply required for execution of work shall be made by the contractor at own cost.
- 23) No compensation shall be payable for any damaged caused to materials, unfinished or finished items or work due to rain, floods or any other act of God. The contractor shall ensure due insurance for such risks.
- 24) The contractor will arrange his own tools and plants required for work.
- 25) The jurisdiction of Civil Court for matters under dispute shall be SAS Nagar, Punjab, India.
- 26) Any item not existing in this DNIT but actually executed at site as per CSR item then it shall be paid at the same rate at which the work has been allotted to the agency but in any case not above the CSR.
- 27) The agency will follow the COVID-19 guidelines issued by the Govt. applicable at the time of execution of work and as amended from time to time.
- 28) The electrical will shall be carried out as per Punjab PWD specifications.
- 29) Although the bidders are supposed to submit MAF of hardware & Software from the OEMs, the SI may also provide any brand of hardware & Software out of the technically complied brands offered by other bidders, with the consent of PPHC in the favour of project.

4.17 Other General Instructions for Implementation

- b) The winning bidder must adhere to all safety norms and statutory provisions in force.
- c) The winning bidder must ensure that the work is completed within the stipulated time and in conformity with the specified quality. Failure to meet either of them would invite penalty.
- d) The license amount to be paid to the OEMs along with conditions of license must be clearly mentioned by the bidder. The operational cost for 3 years must be included in the offer submitted by the bidder.
- e) Terms of Annual Maintenance Contract along with the rates must be clearly specified by the bidder at the time of submitting the bid.
- f) Although the bidders are supposed to submit MAF of hardware & Software from the OEMs, the SI may also provide any brand of hardware & Software out of the technically complied brands offered by other bidders, with the consent of PPHC in the favour of project.
- g) All Cameras should be from the same OEM.
- h) Quantity of any item can be increased or decreased/ withdrawn at any stage

Note: The right to accept the reason (s) for delay and consider reduction or wave off the penalty for the same shall be at the sole discretion of MD, Punjab Police Housing Corporation.

7. Section 7: ANNEXURES TO BE SUBMITTED WITH TECHNICAL BID:

7.1) CHECKLIST FOR THE DOCUMENTS TO BE INCLUDED IN THE PRE-QUALIFICATION & TECHNICAL BID

| Sr. No. | DOCUMENTS TO BE SUBMITTED | SUBMITTED (Yes /No) | DOCUMENTARY PROOF (PAGE NO.) |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------|
| 1 | Proof of payment of EMD, tender fee, and processing fee | | |
| 2 | Copy of Certificate of Incorporation/ Certificate of Registration of the Company | | |
| 3 | Information technology business/IT System Integration business (Self-Certification of being in the Information Technology business/IT System Integration for the last 5 years duly attested by company secretary/charted accountant should be attached) | | |
| 4 | Human Capital Strength: (The lead bidder must have 50 On roll Employees in India. Out of which 5 resources should have CCTV experience) | | |
| 5 | ISO 9001:2015 Certification | | |
| 6 | Power of attorney/ board resolution to the authorized Signatory of the Bid (If applicable) | | |
| 7 | Copy of PAN card | | |
| 8 | Copy of GST | | |
| 9 | EPF Number | | |
| 10 | ESI Number | | |
| 11 | 7.1) Check List | | |
| 12 | 7.2) Annex-A: Bid Covering Letter | | |
| 14 | 7.3) Annex-B: Particulars of Bidder | | |
| 15 | 7.4) Annex.-C: Undertaking of Total Responsibility | | |
| 16 | 7.5) Annex-D: Undertaking on Office Premises | | |
| 17 | 7.6) Annex-E: Self Declaration For Rule 144 GFR | | |

| | | | |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 18 | 7.7) Annex-F: Undertaking for Non-Blacklisting | | |
| 19 | 7.8) Annex-G: Undertaking for Conflict of Interest | | |
| 20 | 7.9) Annex-H: Financial Details | | |
| 21 | 7.10) Annex-I: Experience Details | | |
| 22 | 7.11) Annex-J: Curriculum for proposed staff | | |
| 23 | 7.12) Annex-K: Undertaking for SLA | | |
| 24 | 7.13) Annex-L: Unpriced Bill | | |
| 25 | 7.14) Annex-M: Warranty Certificate | | |
| 26 | 7.15) Annex-N: Undertaking for Data Retrieval (By Bidder) | | |
| 27 | 7.16) Annex-O: Undertaking for Data Retrieval (By OEM) | | |
| 28 | 7.17) Annex-P: NDA (If applicable) | | |
| 29 | 7.18) Annex-Q: Manufacturer's Authorization Forms: Mandatory to submit MAF from OEMs of the following items along with compliance of technical Specification in this RFP Cameras -AI Based Video Analytics Software - VMS - Server - Switches - Rack - UPS | | |
| 30 | 7.19) Annex-R: Technical Compliance sheets: Mandatory to submit Technical Compliance sheets for the following items, signed by the OEM: <ul style="list-style-type: none"> • Cameras • AI Based Video Analytics Software • VMS • Server • Switches • Rack Fiber Optics Cable. | | |

7.2) ANNEX-A: BID COVER LETTER

(To be submitted on Company's Letterhead and signed by Board Director/ Power of Attorney holder)

To,
Punjab Police Housing Corporation Ltd.
Sec61,SAS Nagar, Punjab

Sub: Submission of the response to the RFP No <> dated <> for Selection of a System Integrator for Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Dear Sir,

In response to your RFP No. _____, we hereby submit our offer herewith.

1. Bidder Name : _____
2. Website Address : _____
3. Email Address : _____
4. Address for Communication : _____

5. Telephone Number : _____
6. Fax/Telefax Number : _____

7. Authorised Person - Name : _____

Designation : _____

Mobile No. : _____

Email ID : _____

8. Alternate Person Name : _____

Designation : _____

Mobile No. : _____

Email ID : _____

9. PAN Number : _____

10. GST Regn. No. with Address : _____

11. Beneficiary's complete Bank Details.

Bank Account No. : _____

IFSC / NEFT Code : _____

Name of the Bank : _____

Address of the Branch : _____

12. Particulars of EMD

Amount : Rs. _____

Mode of Payment (DD/BG) : _____

DD/BG No. : _____

Date : _____

Name of the Bank : _____

Address of the Bank : _____
Validity of BG : _____

13. Particulars of Tender Fee

Amount : Rs. _____
DD No. : _____
Date : _____
Name of the Bank : _____
Address of the Bank : _____

14. Are you a MSME Unit. If yes, please furnish Registration Details, Name of the DIC/State.

15. If you are MSME, is it owned by SC/ST Entrepreneurs or Women Entrepreneurs? If Yes, please specify the Name of the Owner who is SC or ST or Women Entrepreneur (as applicable).

17. Following Documents are submitted to substantiate other eligibility criteria.

i) _____

ii) _____

iii) _____

DECLARATION

1. We have read and understood the terms & conditions of the above-mentioned tender and comply to all Terms & Conditions of the Tender. (In case of any deviation, the Bidder must attach a separate sheet clearly mentioning the Clause No. of the Tender and Deviation there to)
2. We certify that the information mentioned above are true and correct to best of our knowledge.

Place: _____ Signature of Authorized Signatory with Seal
Date: _____ Name:
Designation: _____

7.3) ANNEX.-B: PARTICULARS OF THE BIDDER

| | | |
|-------------------|--------------------------------------------|--|
| I. Firm Details : | | |
| | Name of the bidding Company | |
| | Registered Office Address | |
| | Address of Office(s) | |
| | Incorporation Status of the firm | |
| | Enter "Yes "in appropriate box | |
| | Year of Establishment | |
| | Date of Incorporation | |
| | ROC Reference No | |
| | Registration Number | |
| | PAN Number | |
| | Date of Commencement of Business | |
| | GSTIN | |
| | Details of Contact Person | |
| | Name | |
| | Address | |
| | E-mail id | |
| | Phone Number | |
| | Mobile Number | |
| | Name & Designation of Authorized Signatory | |

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

Designation :

Date :

Seal :

Business Address :

7.4) ANNEX-C: FORM FOR UNDERTAKING OF TOTAL RESPONSIBILITY

To:
The Managing Director,
Punjab Police Housing Corporation
Chandigarh

Tender Ref.

Date:

Dear Sir,

Sub: Self certificate regarding Total Responsibility

This is to certify that we undertake total responsibility for the successful and defect free operation of the proposed Project, as per the requirements and terms and condition of the RFP for Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Thanking you,

Yours faithfully

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

Designation :

Date :

Seal :

Business Address :

7.5) ANNEX.-D: UNDERTAKING ON OFFICE PREMISES

(To be declared in the bidder's letterhead)

This is to certify that we << COMPANY NAME >>

- Has an office in SAS Nagar / Chandigarh UT /Panchkula. Relevant address proof and supporting documents are enclosed.

or

- We undertake to open an office in SAS Nagar / Chandigarh UT /Panchkula within 10 days after issuance of Letter of Acceptance.

Company Secretary / Authorized Signatory Name of Signatory:

Bidder Name:

Date

Place

7.6) ANNEX-E: SELF DECLARATION FOR RULE 144 OF GFR

(To be declared in the bidder's letter head)

Date:

To,
Managing Director,
Punjab Police Housing Corporation, Sec-61, S.A.S. Nagar, Punjab

Subject: Self-declaration for Rule 144 of GFR reg. in response to the RFP for Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Ref:

Dear Sir,

With reference to above, I/We, declare that we comply with orders/ instructions regarding restrictions under rule 144(xi) of the general financial rule (GFR's) 2017 issued by the Ministry of Finance, government of India,

I/We here by agree to provide copy of and/ or produce original of all such documents as may be necessarily required to be submitted for evidence in this regard.

Place:

Date:

Authorized Signatory's Name and Designation:

Bidder's Company Seal:

Authorized Signatory's Signature:

7.7) ANNEX-F: UNDERTAKING FOR NON-BLACKLISTING.

(To be enclosed with Technical bid)

To

The Punjab Police Housing Corporation,
S.A.S. Nagar.

We_____ (Name of the bidder) declare that we have not been blacklisted/ terminated in any manner whatsoever by any of the State/ UT and/or central government in India.

Dated: this

(Signature of Authorized Signatory)

Name :

Designation:

Phone/ Mobile/ Fax No.

Full Name

Full address

7.8) ANNEXURE G: CONFLICT OF INTEREST (COMPANY LETTER HEAD):

To:
Executive Engineer
Punjab Police Housing Corporation
Chandigarh

Sub: Undertaking on Conflict of Interest regarding “Selection of a System Integrator for Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Dear Sir,

I/ We do hereby undertake that there is absence of, actual or potential conflict of interest on the part of the bidder or any prospective subcontractor due to prior, current, or proposed contracts, engagements, or affiliations with Punjab Prison Surveillance, Punjab Police Housing Corporation, Police Head Quarters, Punjab as defined in RFP

I/ We also confirm that there are no potential elements (timeframe for service delivery, resource, financial or other) that would adversely impact our ability to complete the requirements as given in the RFP.

We undertake and agree to indemnify and hold Punjab Prison Surveillance, Punjab harmless against all claims, losses, damages, costs, expenses, proceeding fees of legal advisors (on a reimbursement basis) and fees of other professionals incurred (in the case of legal fees and fees of professionals, reasonably) by PPHC/ Jail Department Punjab and/ or its representatives, if any such conflict arises later.

Yours sincerely,

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

Location: _____ Date: _____

7.9) ANNEX-H: FORMAT TO SHARE FINANCIAL DETAILS

Financial Turnover of last 3 years

The financial turnover of the company has to be provided as per the following table:

| ANNUAL TURNOVER DETAILS (CERTIFIED) | | | |
|-------------------------------------|-------------|-------------|-------------|
| S NO. | FY- 2021-22 | FY- 2022-23 | FY- 2023-24 |
| | | | |

| NET WORTH | | | |
|-----------|-------------|-------------|-------------|
| S NO. | FY- 2021-22 | FY- 2022-23 | FY- 2023-24 |
| | | | |

- Copy of audited financial statements or declaration from the appointed statutory auditor to be provided as proof of the financial turnover.
- Net worth of the last three financial years should be positive. Copy of self-certified statutory auditor certificate to be submitted along with the bid.

7.10) ANNEX-I: FORMAT TO SHARE EXPERIENCE DETAILS

1. Project Summary Sheet:

| SR. NO. | PROJECT NAME | PROJECT DESCRIPTION | PROJECT PERIOD | PROJECT COST |
|---------|--------------|---------------------|----------------|--------------|
| | | | | |
| | | | | |

2. Self-certificate for Project execution experience (In Bidding Entity's Letter Head)

This is to certify that <Name of the Bidding entity> has been awarded with < Name of the Project > as detailed under:

Name of the Project

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|--|
| Client's Name, Contact no. and Complete Address | |
| Contract Value for the bidder (in INR) | |
| Current status of the project (Completed/Ongoing) | |
| Activities completed by bidding entity as on bid submission date (N.B Only relevant activities as sought in the Criteria to be included) | |
| Value of Work completed for which payment has been received from the client. | |
| Date of Start | |
| Date of Completion | |

(Authorized Signatory)

Signature:

Name:

Designation:

Bidding entity's name

Address:

Seal and Date:

(NOTE: PO/Work order & Completion Certificate may also be attached)

7.11) ANNEX-J: CURRICULUM VITALE FOR PROPOSED STAFF

1. **Proposed Position**[only one candidate shall be nominated for each position]:
2. **Name of Firm**[Insert name of firm proposing the staff]:
3. **Name of Staff**[Insert full name]:
4. Date of Birth:
5. **Nationality**:
6. **Education** [Indicate college/university and other specialized education of staff member,givingnamesofinstitutions,degreesobtained,anddatesofobtainment]:
7. Membership of Professional Associations:
- Other Training** [Indicate significant training since degrees under 5 - Education were obtained]:
8. **Countries of Work Experience**: [List countries where staff has worked in the last ten years]:
9. **Languages** [For each language indicate proficiency: good, fair, or poor in speaking ,reading, and writing]:
10. **Employment Record**[Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]:

From [Year]:

To[Year]:

Positions held:

| Detailed Tasks Assigned | Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [List all tasks to be performed under this assignment] | <p>[Among the assignments in which the staff has been involved, indicate the following information for those assignments that best illustrate staff capability to handle the tasks listed underpoint11.]</p> <p>Name of assign mentor project: Year: Location: Client:</p> <p>Main project features:</p> <p>Positions held:</p> <p>Activities performed</p> |

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any will fulmis statement described here in may lead to my disqualification or dismissal, if engaged.

Date:

Signature of staff member or authorized representative of the staff

Full name of authorized representative

7.12) ANNEX-K: UNDERTAKING OF SERVICE LEVEL COMPLIANCE

Tender Ref:

Date:

To,
Managing Director,
Punjab Police Housing Corporation, Sec 61, S.A.S. Nagar,
Punjab

Dear Sir,

Sub: Undertaking on Service Level Compliance

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

Yours faithfully,

(Signature of the Authorized signatory of the Bidding Organization)

Name :

Designation :

Date :

Seal :

Business Address

7.13) ANNEX-L: UNPRICED BILL:

The Bidder shall complete the below given table with details of all OEMs as proposed for this assignment.

| Sr. No. | Name of Item | Name of OEM and brand/ Make | Model no. |
|----------------|---------------------|----------------------------------------|------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |

7.14) ANNEX-M: WARRANTY CERTIFICATE

(On the bidder's Letter head)

Tender Ref.

Date: dd/mm/yyyy

To,
Managing Director
Punjab Police Housing Corporation,
Sec61, S.A.S. Nagar, Punjab

Sub: Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Sir,

We warrant that the equipment(s) supplied under the contract would be newly manufactured, free from all encumbrances, defects and faults in material or workmanship or manufacture, shall be of the highest grade and quality, shall be consistent with the established and generally accepted standards for materials of the type ordered, shall be in full conformity with the specifications, drawings of samples, if any, and shall operate as designed. We shall be fully responsible for its efficient and effective operation. We also warrant that the services provided under the contract shall be as per the Service Level Agreement (SLA) with PPHC. This warranty shall survive inspection of and payment for, and acceptance of the Equipment and Services and shall expire only after 3 years after their successful installation and acceptance by PPHC.

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

The obligations under the warranty expressed above shall include all costs relating to labour, tools, spares, maintenance (preventive as well as unscheduled), and transport charges from site to manufacturer's works / service facilities and back for repair or modification or replacement at site of the equipment or any part of the equipment, which under normal care and proper use and maintenance proves defective in design, material or workmanship or fails to operate effectively and efficiently or conform to the specifications and for which notice is promptly given by PPHC to us (bidder). We shall provide on-site support for all the equipment and service supplied here under during the period of this warranty (3years after acceptance for equipment and entire service period for services).

Authorized Signatory

Name :

Designation:

Seal:

7.15) ANNEX-N: UNDERTAKING FOR DATA RETRIVAL (Mandatory)

(To be declared on the OEM's letter head)

Ref. No.

Date:

To,
Managing Director,
Punjab Police Housing Corporation, Sec 61, S.A.S. Nagar, Punjab

Subject: Undertaking for Data Retrieval in response to the Tender No._____For the work of Design, Supply, installation, Commissioning, and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Dear Sir,

I/ We << COMPANY NAME >> will retrieve the data from the damaged Hard disk as per clause 4.7 without any additional cost. If the Server & Hard disks are required to carry away from the Control Centre to any laboratory for this purpose, I/ we will make stand by arrangement at our own cost till restoration of the same.

OEM's confirmation on data retrieval is attached as Form 7.16 (Annex-O).

And

☐ NDA (Non-disclosure agreement) between bidders and Lab/ organization is also attached (If OEM don't have data retrieval support). (Tick if applicable).

It is undertaken that I/ we will maintain Data integrity and Privacy during data retrieval process.

Authorized Signatory

Name of Signatory:

Bidder Name:

Date

Place

7.16) ANNEX-O: UNDERTAKING FOR DATA RETRIVAL (Mandatory)

(To be declared on the OEM's letter head)

*Tick which is applicable

Ref.No.

Date:

To,
Managing Director,
Punjab Police Housing Corporation,
Sec 61, S.A.S. Nagar, Punjab

Subject: Undertaking for Data Retrieval in response to the Tender No._____ For the work of Design, Supply, installation, Commissioning, and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

Dear Sir,

- ☐ We are liable to put best efforts for retrieval of data without any extra cost, in case any data loss, HDDC rash due to any reason to the entire satisfaction of Engineer-in-Charge and Police Department per clause 4.7 the Data Retrieval process is in accordance with the process and policy of our company.

Or

(In case of non-availability of support for data recovery from OEM and the SI to get the data recovered from any Lab/ organization)

- ☐ The <<Third party lab/organization Name>> is fully equipped and capable to put best efforts for retrieval of data from the damaged Hard disk as per clause 4.7 without any additional cost and the Data Retrieval process of the<<Third party lab/organization Name>>is in accordance with the process and policy of our company.

Company Secretary/Authorized Signatory

Name of Signatory:

OEM' Name:

Date

Place

7.17) ANNEX-P: NON DISCLOSURE AGREEMENT

If OEM don't have data retrieval support, Non-Disclosure Agreement between **bidder** and **Laboratory/ organization**, from which the bidder will get the data retrieved in case of failure of hard disks, maybe submitted along with the Form 7.16.

7.18) ANNEX-Q: MANUFACTURER'S AUTHORIZATION FORM

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

Tender Ref.

Date:

To:

Managing Director
Punjab Police Housing Corporation,
Sec 61, S.A.S. Nagar, Punjab

Dear Sir,

Subject: OEM Authorization for Design, Supply, installation, Commissioning, and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab

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

| Item | Name of OEM and brand/ Make | Model no. |
|------|-----------------------------|-----------|
| | | |
| | | |

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

We confirm the following:

- that our offered product will not be end of life for minimum of three (03) years from the date of commissioning and the support for such offered product/s will be available for minimum of five (05) years from the date of bidding.
- that we have customer support centers and spares available in India.
- that the MAC address of the products is registered in our name only.
- that, we have not been blacklisted/ terminated in any manner whatsoever by any of the State/UT and/or central government in India.
- that Our brand has not been debarred by ONVIF and we are active member of ONVIF. - (Applicable for OEMs of CCTV Cameras) only).
- That we own the IPR in our name. - (Applicable for OEMs of CCTV Cameras and Software's only).

Yours faithfully,

For and on behalf of M/s (Name of the manufacturer)

Signature Name:_____

DesignationAddress:_____

Date:_____

Directorate Seal:_____

Note: This letter of authority shall be on the letterhead of the manufacturer and shall be signed by a person competent and having the power of attorney to bind the manufacturer. The Bidder in its Bid shall include it.

7.19) ANNEX-R: TECHNICAL COMPLIANCE SHEET

(To be declared on the OEM's letterhead)

Use separate sheet for each item.

Name of Item: _____

Item no. in BOQ. _____

Make _____

Model No. _____

| S . N O . | TECHNICAL PARAMETERS | MINIMUM SPECIFICATIONS | COMPLIANC E (YES/NO) | REMARKS |
|-----------------------|-------------------------|---------------------------|--------------------------------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

For and on behalf of M/s (Name of the manufacturer)

Signature _____

Name: _____

Designation _____

Address: _____

Mob. No. _____

Date: _____

Directorate Seal: _____

7.20) ANNEX-S: UNDERTAKING REG. STQC BY THE BIDDER

(To be uploaded with Technical bid in case of pendency of approval to the BIS/STQC/RoHS certifications)

(On the bidder's Letterhead)

Tender Ref.

Date: dd/mm/yyyy

To,
Managing Director
Punjab Police Housing Corporation,
Sec 61, S.A.S. Nagar, Punjab

Sir,

We have offered _____make CCTV cameras in the tender for the work of _____. The OEM M/s _____ has applied for STQC/ BIS Certifications (Proof of ongoing testing/ application of OEM to the concerned authorities/ Labs is enclosed herewith). We undertake that the material will be delivered at site as per timeline given in the DNIT and the copy of various certifications i.e. BIS, STQC, RoHS etc. will be provided before the dispatch of the material.

Authorized Signatory

Name :

Designation:

Seal:

7.21) ANNEX-T: UNDERTAKING REG. STQC BY THE OEM OF CCTV CAMERAS

(To be uploaded with Technical bid in case of pendency of approval to the BIS/STQC/RoHS certifications)

(On the OEM's Letterhead)

Tender Ref.

Date: dd/mm/yyyy

To,
Managing Director
Punjab Police Housing Corporation,
Sec 61, S.A.S. Nagar, Punjab

Sir,

We _____ (Name of the OEM), manufacturers of _____ (Name of Goods) have authorized M/s _____ (Name and address of the Bidder) to bid with you against E-Tender Notice No. _____ dated _____, for the CCTV Cameras manufactured by us and the offered CCTV cameras are complied with the technical specifications mentioned in the DNIT.

We have already applied for STQC/ BIS Certifications with the concerned authorities/ Lab (Proof of ongoing testing/ application to the concerned authorities/ Labs is enclosed herewith). We undertake that the material will be delivered to the bidder as per timeline given in the DNIT and the copy of various certifications i.e. BIS, STQC, RoHS etc. will be provided before the dispatch of the material.

Authorized Signatory

Name :

Designation:

Seal:

Section 8: (FORMATS FOR SUBMISSION OF THE COMMERCIAL BID):

8.1 TOTAL PRICE SUMMARY

TO BE UPLOADED AS BOQ SHEET (Xls Format)

| Punjab Police Housing Corporation | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------|----------------------|
| SHORT E-TENDER NOTICE NO. 20/2025-26 | | | |
| Financial Bid | | | |
| Design, Supply, installation, Commissioning, and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab | | | |
| Name of the Bidder | | | |
| Address, Contact Details of the Bidder | | | |
| Sr. No | ITEM | PRICE IN FIGURES (INCLUDING ALL TAXES) | TOTAL PRICE IN WORDS |
| 1 | Total CAPEX price (From table at 8.2) including free onsite warranty for 01 year | | |
| 2 | Total OPEX price (from table at 8.3) | | |
| Total | | | |

8.2 PRICE COMPONENT FOR CAPEX (INCLUDING ONSITE WARRANTY FOR 01 YEAR FROM THE DATE OF FINAL ACCEPTANCE):

(TO BE UPLOADED AS PDF)

The Bidder shall consider the components and quantity to fulfil the RFP and project requirements in totality as per the following template:

| S. No. | Description of Item | Unit | Qty | Rate (Rs.) Including GST | Amount (Rs.) Including GST |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------------------------|----------------------------|
| A | Cameras and other field items:- | | | | |
| 1 | SITC of 4MP Bullet Camera for ANPR with mounting | Nos | 11 | | |
| 2 | SITC of 4MP Outdoor Bullet Camera varifocal lens with mounting | Nos | 508 | | |
| 3 | SITC of 2MP Dome Camera with mounting | Nos | 267 | | |
| 4 | SITC of 2MP Outdoor IR PTZ cameras with 300 Meter IR Range and Edge Analytics with mountings. | Nos | 9 | | |
| 5 | 8 port POE Switch with 2SFP port fully loaded | Nos | 100 | | |
| 6 | SITC of 24 port POE Switch with 2SFP port fully loaded | Nos | 24 | | |
| 7 | SITC of 15U Network Outdoor Rack | Nos | 114 | | |
| 8 | SITC of 1 KVA UPS with battery backup of 30 min. on full load (rack mount) | Nos | 114 | | |
| 9 | Supply and erection of 3-Stepped steel tubular swaged and welded pole (410-SP Mpa) of suitable length confirming to IS: 2713- (PART-II)-1980 (Steel tubes confirming to IS: 1161-1979, UTS 42 kgf/ Sq.mm) to fix up to a required planting depth below ground level in a hole of excavation about 45 cm dia. and suitable depth to fill up to 15 cm below G/L with 1:2:4 cement concrete mixture including painting of pole with two coats of approved aluminium paint as required:- | | | | |
| i | Overall length 8 metre, with planting depth 1.5 metre, length of sections 4.5 metre, 1.75 metre and 1.75 metre (Bottom, Middle and Top respectively), Outer dia and thickness of sections 139.7mm x 4.5mm, 114.3mm x 3.65mm and 88.9mm x 3.25mm (Bottom, Middle and Top respectively) with approximate weight 101 kg. (410 SP-13) base Plate weight 7.5 kg. of size 12mm thick about 30 cm dia. | Nos | 24 | | |
| B | Backend IT Infrastructure at CMC | | | | |
| 1 | SITC of 24 Port Distribution Switch 1x24/10G SFP Ports all populated (fully loaded) | Nos. | 10 | | |
| 2 | SITC of VMS Server | | | | |
| i | VMS Server with 40TB Usable Storage, configured in RAID 5 | Nos | 2 | | |
| ii | VMS Server with 60TB Usable Storage, configured in RAID 5 | Nos | 6 | | |
| iii | VMS Server with 90TB Usable Storage, configured in RAID 5 | Nos | 3 | | |
| 3 | SITC of VA Server, as per requirement of this project | Nos | 11 | | |
| 4 | SITC of 42 U Server Rack | Nos | 12 | | |
| 5 | SITC of OS, VM License, Database License | Lot | 11 | | |

| S. No. | Description of Item | Unit | Qty | Rate (Rs.) Including GST | Amount (Rs.) Including GST |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|--------------------------|----------------------------|
| 6 | SITC of 24X7 Operational Full HD 55" LED Display with all mounting & connecting accessories | Nos | 14 | | |
| 7 | SITC of Monitoring Workstation with 1 number of 24" HD LED Monitor | Nos | 11 | | |
| 8 | SITC of Video Management Software Channel License, as per requirement of this project (For 11 Jails) | LOT | 1 | | |
| 9 | SITC of AI Based Video Analytics Software License, as per requirement of this project (For 11 Jails) | LOT | 1 | | |
| 10 | SITC of ANPR application and Channel License, as per requirement of this project | LOT | 11 | | |
| C | Active and Passive Network | | | | |
| 1 | Supply & Laying 12 Core Fiber Optics Cable (Armored) in existing PLB duct/ loose/ On surface, including splicing as required at site | Mtr | 11100 | | |
| 2 | Supply and laying of PLB HDPE Duct (40/33 mm) including trenching underground/ chasing in wall and repairing/ saddling in case of on surface etc., as required at site | Mtr | 9000 | | |
| 3 | Supply and erection of Double Walled Corrugated (DWC) HDPE pipe to be laid 1mtr. below ground level including excavation placing the pipe in position and back filling with excavated soil etc. of size 50/38mm (Outer/ Inner dia.) | Mtr | 7150 | | |
| 4 | SITC of Outdoor Joint Closure/ Dome closure | Nos | 63 | | |
| 5 | SITC of UTP Patch Panel (24 Port Fully loaded) | Nos | 11 | | |
| 6 | SITC of Fiber LIU (48 Port fully loaded) | Nos | 9 | | |
| 7 | SITC Fiber LIU (12 Port fully loaded) | Nos | 107 | | |
| 8 | SITC of Single Mode Fiber Patch Cord armored (3M) | Nos | 439 | | |
| 9 | SITC of Armored Double Jacket UTP Cat 6 Cable | Mtr | 34200 | | |
| 10 | SITC of CAT6 Patch Cord 3 Meter | Nos | 115 | | |
| D | Power Backup at Central Monitoring & Control Room | | | | |
| 1 | SITC of 5 KVA 3Ph Online UPS and 30 Min Backup on full load | Nos | 11 | | |
| 2 | SITC of MCB DP 40 Amp with Sheet metal MCB Box Double Door & Copper Bus Bar Chamber 63Amp 4 Pole | Lot | 101 | | |
| 3 | SITC of Chemical Earthing with copper bounded 38mm pipe for CMC and Outdoor Racks, including pit with Cover, making connections to Racks with 8mm dia copper wire in heavy guage PVC pipe (Flushed) including boring, making trenches/ casing and repair of the same. | Nos | 136 | | |
| 4 | Supply and erection of PVC insulated Copper conductor Power Cables (3 x 4sqmm) | Mtr | 6830 | | |
| 5 | Supply and erection of PVC insulated aluminium armoured conductor 16Sqmm cable (4 core) | Mtr | 8180 | | |

| S. No. | Description of Item | Unit | Qty | Rate (Rs.) Including GST | Amount (Rs.) Including GST |
|--------|---------------------------------------------------------------|------|-------|--------------------------|----------------------------|
| 6 | Supply and erection of PVC pipe ISI heavy 25mm dia On surface | Mtr | 16050 | | |
| | Total | | | | |

Price (in words) _____

NOTE: -

All components will be covered under free onsite Warranty/ Comprehensive Maintenance for 01 year after final acceptance. The SI will have to deploy requisite Field Engineers to maintain the SLA.SI will also arrange Tools & Plants and Ladders/ Sky lifts, as required, at his own cost.

8.3 PRICE COMPONENT FOR OPEX INCLUDING MANPOWER):

(TO BE UPLOADED IN PDF FORMAT)

| S. No. | Description of Item | Unit | Qty | Rate (Rs.) Including GST | Amount (Rs.) Including GST |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------------------------|----------------------------|
| 1 | Annual Comprehensive maintenance of all components of AI based CCTV Surveillance system and allied equipment after expiry of one year warranty: | | | | |
| i | AMC for 1 st year after expiry of free warranty of one year | Job | 1 | | |
| ii | AMC for 2 nd year after expiry of free warranty of one year | Job | 1 | | |
| iii | AMC for 3 rd year after expiry of free warranty of one year | Job | 1 | | |
| | TOTAL | | | | |

Price (in words) _____

NOTE: -

The SI will have to deploy requisite Field Engineers to maintain the SLA. SI will also arrange Tools & Plants and Ladders/ Sky lifts, as required, at his own cost.

Section 9 : TEMPLATES:

9.1 Request Form for Clarifications/ Pre-bid queries:

Bidders requiring specific points of clarification may communicate with PPHC during the specified period using the following format. The queries shall necessarily be submitted strictly in the following format in editable **Xls only**. **Queries in PDF format would not be accepted.**

| S. NO | Page number | RFP Section Number | Section heading | Point of clarification | Justification for changes suggested |
|-------|-------------|--------------------|-----------------|------------------------|-------------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |

NOTE: In case of queries about technical specifications, Bidder will have to submit the undertaking from the OEMs, along with their queries, that none of their products portfolio is complying with the technical specifications taken in the RFP. Queries w.r.t. technical specifications without OEM's undertaking will not be entertained.

9.2 FORMAT FOR POWER OF ATTORNEY EXECUTED IN FAVOR OF THE AUTHORIZED SIGNATORY:

It is clarified that the Bidder may submit the Power of Attorney in their own format clearly stating that the person is authorized to sign on behalf of the bidder. It is also clarified that the "Letter of Authorization" is to be read as "Power of Attorney".

[To be executed on stamp paper of appropriate value]

Know all men by these presents, We, [Insert full legal name of the bidding entity], having registered office at [Insert registered office address] (hereinafter referred to as the "Principal") do hereby constitute, nominate, appoint and authorize [Insert full name of authorized signatory] son of [Insert father's name] presently residing at [Insert address of authorized signatory] who is presently employed with us and holding the position of [Insert position/ designation of the authorized signatory] as our true and lawful attorney (hereinafter referred to as the "Authorized Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to the submission of our proposal in response to the RFP bearing number _____ for '<RFP Name>' dated _____, including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre-Bid and other conferences and providing information/ responses to the Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab, signing and execution of all contracts and undertakings/ declarations consequent to acceptance of our Proposal and generally dealing with the Punjab Prison Surveillance in all matters in connection with or relating to or arising out of our Proposal for the said assignment and/ or upon award thereof to us till the execution of appropriate Agreement/s with the authority

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Attorney pursuant to and in exercise of the powers conferred by this deed of Power of Attorney and that all acts, deeds and things done by our said Authorized Attorney in exercise of the powers hereby conferred shall always be deemed to have been done by us.

IN WITNESS THEREOF WE, _____ THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF _____, 2023.

For _____

(Signature, name, designation, and address)

[Please put company seal if required]

[Notarize the signatures]

Witness 1:

Name:
Designation:
Address:
Signature:

Witness 2:

Name:
Designation:
Address:
Signature:

9.3 FORMAT OF PERFORMANCE BANK GUARANTEE

(To be furnished by Scheduled Commercial/Nationalized Bank)

(To be submitted by the successful bidder after LoA)

In favor of Managing Director
Punjab Police Housing Corporation, Sec 61, S.A.S. Nagar,
Punjab

WHEREAS _____ [name and address of SI] (herein after called "the SI") has undertaken, in pursuance of Contract No. _____ dated _____ to execute Design, Supply, installation, Commissioning and maintenance of Artificial Intelligence based CCTV Surveillance System in 11 Nos. Jails in Punjab (herein after called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the SI shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the SI such a Bank Guarantee.

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the SI, up to a total of _____ [amount of guarantee] _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the SI before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the SI shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall be valid until (i.e.) 30 days from the date of expiry of the Defects Liability/ AMC Period.

Signature and seal of the guarantor _____ Name of Bank _____
_____ Address _____
Date _____

Details of Beneficiary for Bank Guarantee: -

| | |
|--------------------------------------|---------------------------------------|
| Beneficiary Bank Account Name: | MANAGING DIRECTOR PPHC PH 7 MOHALI PB |
| Beneficiary Bank Name & Branch: | HDFC Bank & Branch Phase-7, Mohali |
| Beneficiary Bank IFSC Code: | HDFC0001307 |
| Beneficiary Bank Account Number : | 50100189729533 |
| Beneficiary PAN: | AAACP9909L |
| Beneficiary TAN: | PTLP11135F |

9.4 FORMAT OF AGREEMENT:

This agreement, made the _____ day of _____ 20_____, between Executive Engineer (Elect.), PPHC, S.A.S. Nagar on behalf of Managing Director, PPHC, Sahibzada Ajit Singh Nagar, Punjab (hereinafter called "the Department/PPHC") of the one part and

Name and address of contractor] (herein after called "the System integrator") of the other part.

Whereas the Department/PPHC is desirous that the System integrator execute

_____ [name and identification number of Contract] (herein after called "the Work") and the Department/ PPHC has accepted the Bid by the System integrator for the execution and completion of such Works and the remedy in go if any defects therein, at a contract price of Rs.....

NOW THIS AGREEMENT WITNESSE THE as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to the min the Conditions of Contract herein after referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Department/ PPHC to the System integrator as hereinafter mentioned, the System integrator hereby covenants with the Department/ PPHC to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Department/ PPHC hereby covenants to pay the System integrator in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - a. Letter of Acceptance.
 - b. Notice to proceed with the works.
 - c. Contractor's Bid.
 - d. Contract Data.
 - e. Conditions of contract (including Special Conditions of Contract);
 - f. Specifications.
 - g. Bill of Quantities; and
 - h. Any other document listed in the Contract Data as forming part of the contract.

In witness where of the parties there to have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____

Was here unto affixed in the presence of:

Signed, Sealed and Delivered by the said. _____

In the presence of:

Binding Signature of Department/PPHC:

Binding Signature of System integrator

END OF DOCUMENT