

POLICE

DEPARTMENT



NO.H6/181333/2018/PHQ

DATED : 10.02.2021

INTEGRATED DIGITAL TRAFFIC ENFORCEMENT SYSTEM (ITES)



RFP for selection of Service Provider for Integrated Digital Traffic Enforcement System(ITES)

RELEASED BY:

KERALA POLICE
THIRUVANANTHAPURAM
GOVERNMENT OF KERALA

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Disclaimer

The information contained in this Request for Proposal document ("RFP") or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of Kerala Police ("KP") or any of its employees or advisers, is provided to Bidders on the terms and conditions set out in this RFP.

This RFP is not a Contract and is neither an offer nor invitation by KP to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals in pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by KP in relation to the project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for KP, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct his own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. KP accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein. KP, its employees and advisers make no representation or warrants and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

KP also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Applicant upon the statements contained in this RFP.

KP may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP. The issue of this RFP does not imply that KP is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for this project and KP reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by KP or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and KP shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or in submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

2. Executive Summary

The primary goal of this RFP is to select System Integrator for implementing an Integrated Digital Traffic Enforcement System (ITES) across the state of Kerala. The objective of the ITES is to reduce the number of drivers who violate traffic rules, such as exceeding the speed limit or jumping red lights thereby making the roads safer and to identify and penalise those drivers who violate traffic rules.

In this context, the purpose of the RFP are the following.

- Identify vendors who have the following expertise
- Traffic engineering skills to objectively identify the locations for ITES sites based on accident black spot and other relevant data such that the implementation of the ITES will result in the improvement in road safety to the maximum extent possible
- Technology products that will detect rule violation and detect the vehicles reliably under all weather conditions
- To understand from the system integrators how they propose to meet the technical and maintenance requirements of the ITES
- To ascertain how system integrators propose to implement the ITES solution and operate and maintain it during the project duration
- To understand from the shortlisted vendors as to how they intend to innovate further on the solution so as to reduce traffic rules violation, improve safety and increase the geographic area/number of locations covered by the system

Kerala Police (KP) shall be the final authority with respect to selection of agency through this RFP. Their decision with regards to the selection of the agency shall be final and KP reserves the right to reject any or all the bids without assigning any reason. KP further reserves the right to negotiate with the selected agency to enhance the value through this project and to create a more amicable environment for the smooth execution of the project.

3 Abbreviations

| Abbreviation | Full Form |
|--------------|------------------------------------|
| 3G/4G | Third Generation/Fourth Generation |
| ANPR | Automatic Number Plate Recognition |
| BCP | Border Check Post |
| BG | Bank Guarantee |
| CNG | Compressed Natural Gas |
| CMC | Central Monitoring Centre |
| KP | Kerala Police |
| DD | Demand Draft |
| FTP | File Transfer Protocol |
| HET | Hand held Enforcement Terminal |
| IRC | Intelligent Roadside Controller |
| LEP | Law Enforcement Personnel |
| MVA/MVR | Motor Vehicle Act/Rules |
| NMS | Network Management System |
| OCR | Optical Character Recognition |
| PBG | Performance Bank Guarantee |
| PUC | Pollution Under Control |
| QoS | Quality of Service |
| RC | Registration Certificate |
| HAVD | Helmet Absence Violation Detection |
| RFP | Request For Proposal |
| RLVD | Red Light Violation Detection |
| RTO | Regional Transport Office |
| SDC | State Data Centre |
| SP | System Provider |

4 GENERAL INFORMATION

4.1 NOTICE INVITING TENDER

Bids are invited for the below mentioned work by Kerala Police (KP) from eligible bidders:

| Name of the work | EMD/ Bid security | Document fee (non-refundable) | Contract period | Bid Closing date and time |
|---|---|--|-----------------|-------------------------------|
| System Design, Development, Supply and Installation of the ITES system and its Operation and Maintenance for a period of 10years. | Rs.1,00,00,000 (Indian Rupees One Crore) | Rs.25,000 (Indian Rupees Twenty Five thousand) 18% GST amount on tender fees mentioned above shall be paid to GST Department directly by the bidder. | 10 Years | 15.03.2021 3.00 PM |

The RFP document to be downloaded from website :<https://etenders.kerala.gov.in>. The Bids shall be liable for rejection unless accompanied by the requisite EMD and bid document fee as indicated above. The EMD of Rs.1,00,00,000/-shall be paid in online mode through the e-GP website www.etenders.kerala.gov.in at the time of bid submission. No other mode of remittance shall be accepted.

The KP reserves the right to accept or reject any or all bids without thereby incurring any financial or other liability to the affected bidders.

Address for communication and for pre-bid queries:

Additional Assistant Inspector General of Police

Kerala Police Headquarters,

State Police Headquarters, Vellayambalam

Thiruvananthapuram - 695010

Phone: +914712722566

Email : aig2phq.pol@kerala.gov.in

4.2 SCHEDULE OF IMPORTANTEVENTS/ACTIVITIES**TENDER NO. KPET/02/2021/PHQ Dated 10.02.2021**

| S. No. | Event | Date |
|---------------|--|---|
| 1 | Date of publication of <i>Tender/Bid</i> | 10.02.2021 06.00 PM |
| 2 | Last date for submission of queries/clarifications by the perspective bidders | 20.02.2021 12.00 NOON |
| 3 | Pre-bid meeting date, time and place | 23.02.2021 11.00 AM State Police Headquarters, Vellayambalam Thiruvananthapuram – 695010 |
| 4 | Date of submission of Tender | 25.02.2021 12.00 NOON |
| 5 | Last date for <i>Tender/Bid</i> submission | 15.03.2021 3.00 PM |
| 6 | Opening of bids (Verification of RFP, Document fee & Bid security and power of attorney followed by opening of Technical bids) | 17.03.2021 3.00 PM |
| 7 | Date of Technical Evaluation | To be intimated later |
| 8 | Financial Bid Opening | To be intimated to qualified bidders |
| 9 | Award of Contract | T0 |
| 10 | * Pilot Demonstration | T0+12 WEEKS |
| 11 | Project Roll out for one city | T0+12 months |
| 12 | * Start of Challaning | T0+12 months |
| 13 | Project Roll out (Project roll out plan to be decided jointly) | T0+18 months |

KP reserves the right to change the scheduled dates with prior intimation to all bidders.

4.3 PREAMBLE

Kerala Police (KP) are most committed to providing safe roads in Kerala. Compliance to the laws relating to the speed-limits for motor vehicles is an integral part of this vision. Though there are very stringent laws, voluntary compliance to the same is not very high. Thus, KP has envisaged an enforcement system that would improve compliance to the stipulated laws over a period of time and thereby making the transport infrastructure safer and efficient. KP intends to leverage state-of-the-art technologies such as enforcement grade radar and ANPR systems to build an electronic monitoring and enforcement system that is highly accurate and coordinates with all stakeholders in real-time.

Enforcement stations proposed to be set up at a number of locations across the state will identify vehicles passing through those points that are over-speeding as a part of this project. The system will capture over-speeding at individual enforcement station locations as well as average speed-limit violation between pairs of enforcement station locations. All enforcement data will be sent to a Central Monitoring Centre (CMC) set up as a part of this project. The central database is expected to be integrated with other statutory compliance related data sources such as registration, fitness, tax and commercial vehicle permits and cross-linked with VAHAN to make up the heart of the proposed ITES. Challans will be generated for traffic violations and sent to vehicle owners after manual verification.

KP will commission this project on a BOOT basis.

The key features of the BOOT model are as follows-

- a) Concession period of 10 years
- b) CAPEX and OPEX by the Bidder.
- c) Technology by the Bidder
- d) Asset ownership with the Bidder
- e) Data and Software ownership with Kerala Police
- f) Successful bidder obtains revenue through a service fee on challans generated and PUC certificates issued
- g) At the end of contract period, all assets shall stand transferred to KP at no cost and free from encumbrances.
- h) Financial quotation for the BOOT model should be provided as per the format given in Section 8.7.1
- i) Successful bidder obtains revenue through a service fee on challans generated

Kerala police department will put all efforts to collect fines from violators by different means as per law.

KP will also request bidders to submit an alternative non-BOOT model as follows. A decision on whether to open the same will be taken at a later date.

- a. Project duration of 10 years
- b. CAPEX by KP and OPEX by the Bidder.
- c. Technology by the Bidder
- d. Asset ownership with KP

- e. Data and Software ownership with Kerala Police
- f. 3D radar used ~~should~~ have a valid national/ international speed calibration certificate from a authorized lab. Same is applicable for BOOT & NON BOOT models
- g. All critical software like payment management software should be certified by a reputed international agency like STQC and has to be implemented by Bidder

The Project presently is proposed to be implemented in the BOOT model. The Non BOOT model bids will be opened, only if required. Hence companies are encouraged to bid for the BOOT model first and preferably for both. Bids for the Non BOOT model are not compulsory. But BOOT model preferred.

4.4 PROPRIETARY ANDCONFIDENTIAL

No part of this document can be reproduced in any form or by any means, disclose or distributed to any person without the prior consent of the KP except to the extent required for submitting bid and no more.

The information contained in this document is only disclosed for the purpose of enabling the bidder to submit a proposal to the KP in accordance with the requirements of this document. This document should not therefore be used for any other purpose under any circumstances.

This document contains proprietary information furnished for evaluation purposes only; except with the written permission of the department, such information may not be published, disclosed, or used for any other purpose. The bidder acknowledges and agrees that this document and all portions thereof, including, but not limited to, any copyright, trade secret and other intellectual property rights relating thereto, are and at all times shall remain the sole property of KP and that title and full ownership rights in the information contained herein and all portions thereof are reserved to and at all times remain with the department. The bidder agrees to take utmost care in protecting the proprietary and confidential nature of the information contained herewith.

This tender document is neither an Agreement nor an Offer or Invitation to enter into an Agreement of any kind with any Party. Though adequate care is taken in preparation of this document, the interested agency shall analyse and collect relevant information for preparation and submission of bid at their cost and interest.

5. INSTRUCTION TO BIDDERS

5.1 INTRODUCTION

Kerala Police (KP) has utmost commitment to providing safe and efficient transport infrastructure to the residents of Kerala. As part of this vision, KP intends to ensure compliance with road rules and regulations, using a state of the art automated enforcement system. The key objectives being that the system be automated to a large extent, with very little manual intervention. As an automated solution is technology intensive, KP would benefit with expertise from technology leaders in the field of enforcement systems.

Bids are invited from eligible bidders for design, development , supply and installation of Integrated Digital Traffic Enforcement System(ITES) and to operate and maintain the system for the Kerala Police for a period of 10 years.

5.2 ELIGIBILITYCRITERIA

- a) Kerala Police intends to induct latest technology in the Integrated Traffic Management System proposed to be installed in the Kerala State.
- b) The applicant (here onwards known as 'Bidder') shall be a Company incorporated and registered in India under the Partnership Act, 1956 or Companies Act, 2013 and not blacklisted by any Government Agency in India. A State Public Sector Organization or a Government of India Public Sector Organization will be given extra weightage during the selection.
- c) The bidder can take the assistance of any suitable Company or Agency (for induction of technology) based either in India or abroad, provided they have not been blacklisted by the Government of India or any of these agencies.
- d) It is also made clear that Public Sector Undertakings can form consortium amongst each other or with other Companies. However, in such situation all the partners in the consortium shall have to prove their credentials in terms of expertise, etc. The technical partners must have an office located in India to provide seamless services. The technical partner should ensure that an office is set-up at a place in Kerala for providing seamless service, immediately after the contract is awarded.

(Documentary proof (copy of certificate of incorporation) shall be submitted as part of the eligibility documents)

e) Financial qualifications:

- i. The bidder's average annual financial turnover should be equal to or higher than Rs.150 crores in last 3 financial years. Over the past 5 years, minimum 50 crores should be from enforcement systems or / and revenue collection systems. The net worth of the bidder in the last financial year shall be more than Rs.50 crores. Government Firms/Public Sector Undertakings can apply for reasonable relaxations in this regard.
- ii. In case of consortium, the annual average audited turnover over the last three financial years of the Consortium should be at a minimum be Rs. 250 crores. Over the last 5 years, minimum 50 crores should be from enforcement systems or / and revenue collection systems for lead bidder or consortium member. Reasonable relaxations can be given to Government /public sector undertakings in this regard.

Financial statements of last three audited financial years are acceptable, if the bidder's last financial year auditing is under processing. In that case, bidder to submit an undertaking to provide the same upon availability

- iii. The net worth of the lead bidder in the last financial year shall be more than Rs. 50 crores. The Sole Bidder or the Lead Member of consortium should be registered in India under Companies Act 1956/2013 or as amended and should have been in operation for at least 7 years as on date of submission of the bid. Number of members in a consortium shall not exceed 3 (Three) including the Lead Member. The Sole Bidder or Lead Member or any member of its consortium should have successfully supplied and implemented (1) at least 1 (One) Integrated Traffic Management System (ITMS) with the project cost not less than Rs. 24 Crores OR (2) at least 2 (Two) Integrated Traffic Management System (ITMS) with the project cost not less than Rs. 15 Crores OR (3) at least 3 (Three) Integrated Traffic Management System (ITMS) with the project cost not less than Rs. 15 Crores in last 5 (Five) financial years. The Sole Bidder or Lead Member or any member of its consortium should not have blacklisted by Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices as on date of submission of the proposal. The Sole Bidder or the Lead Member of consortium should have a valid ISO 9001:2008 **9001:20015** or similar quality certification.
- iv. In case of foreign companies (Companies not constituted as per Indian Companies Act, 1956

and constituted as per respective foreign law) would be allowed to bid as a single bidder or a member of a consortium. In case a foreign company is a bidder, then it must provide evidence of meeting the financial qualifications criteria mentioned in points (a) and (b) above in equivalent Indian Rupees certified by a Chartered Accountant registered in India or certified by reputed international audit firms like Deloitte, PWC, KPMG or Ernst & Young. The exchange rate of its respective foreign currency to Indian currency in respective years used to compute the turnover must clearly be stated. Copies of annual audited reports for the relevant years should be submitted along with the technical bid signed by the statutory auditor.

(A certificate from the statutory auditor as proof for the above in the enclosed format at section 8.4. In case a Foreign Company is a Bidder, then it must provide evidence of meeting the Financial Capability criteria- turnover in equivalent Indian Rupees certified by a Chartered Accountant registered in India or Certification by foreign based reputed firms like Deloitte, PWC, KPMG, or E&Y)

f) Technical qualifications:

- i.** A single bidder/consortium should be able to demonstrate experience over the last seven years India/Any other country in any two of items (a), (b), (c) or (d) below:
 - a)** Enforcement systems using ANPR technologies at a minimum of 100 sites, spread over a minimum of two contracts with unique customers, working successfully for a minimum period of five years. Systems implemented beyond five years and are still in operation, will also be considered.
 - b)** Online revenue collection system and financial settlement system with challaning
 - c)** The vendor should have successful experience in Enforcement Control Room for a minimum of 3 years in the last 7 years.
 - d)** Enforcement systems using Speed Violations Detections technologies at a minimum of 100 sites, spread over a minimum of two contracts with unique customers, working successfully for a minimum period of three years.
 - e)** All major enforcement sub systems like SVDS, RLVD, Mobile SVDS, AI camera should be demonstrated within 2 weeks of tender opening
- ii.** In case Bidder(s) is/are relying on qualifications of subsidiary/parent/sister concern firm for meeting the technical and/or financial eligibility norms, under such circumstances the bidder shall clearly indicate with supporting documentation, the relationship between the bidder and the entity whose qualifications it is seeking to rely upon. The bidder, if a subsidiary of another company, may claim such qualification only if the parent company has a minimum of 51% holding in it. Similarly, a bidder may claim such qualification from its subsidiary only if it has a minimum of 51% holding in the subsidiary. Finally, a bidder may claim credit from a sister concern only if the parent company holds a minimum of 51% stake in both the bidding company and sister concern. If the firms are not in the nature of companies, then the determination of the relationship would be based on possession of a controlling stake.
- iii.** In case of a Foreign Company, documents in languages other than English should be accompanied by a notarized
- iv.** Translation to English language only.

5.3 CONTENT OF TENDER DOCUMENT

- a)** The Tender document should be read in conjunction with any addenda or clarifications issued.
- b)** Bidders are advised to study the Bid Document carefully. Submission of the Bid will be deemed to have been done after careful study and examination of all instructions, eligibility

Norms, terms and requirement specifications in the tender document with full

understanding of its implications. Bids not complying with all the given clauses in this tender document are liable to be rejected. Failure to furnish all information required in the tender document or submission of a bid not substantially responsive to the tender document in all respects will be at the bidder's risk and may result in the rejection of the bid.

5.4 COST OF BIDDING

The Bidder shall bear all costs associated with the preparation and submission of the Bid and KP will in no case, be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

5.5 CLARIFICATION OF TENDER DOCUMENT

All Bidders are required to go through the tender document (RFP document) and submit their queries/ clarifications to KP in writing within 7 days from the date of publication of this tender. KP will not respond to any queries received after this date. KP will publish the clarifications to the bidders' queries on website specified in this RFP only. No separate information will be sent to any individual Bidder in this regard.

5.6 AMENDMENT OF TENDER DOCUMENT

At any time prior to the deadline for submission of bids, KP, for any reason, whether at its own initiative or in response to the clarifications requested by prospective Bidders, may modify the bidding documents by issuing amendment(s).

All the Corrigendum / Addendum made in the document would be published on the e-Tendering Portal and shall be part of RFP. No separate information will be passed to individual bidders in this regard. The Bidders are advised to visit the e-tendering portal on regular basis to check for necessary updates.

5.7 LANGUAGE OF BID

The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and KP shall be written in English.

5.8 VALIDITY OF THE PROPOSAL

Proposals shall remain valid for a period of 180 days (one hundred and eighty days) after the date of Proposal opening prescribed in the RFP. A Proposal valid for shorter period maybe rejected as non-responsive. KP may solicit the Bidder's consent to an extension of Proposal validity (but without the modification in Proposals).

5.9 RIGHT TO ACCEPT OR REJECT PROPOSAL

KP reserves the right to accept or reject any or all proposals, and to annul the bidding process at any time prior to award of contract, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

5.10 SUBMISSION OF BID

The application fees and EMD shall be submitted through Online for Design, Development, Installation, Maintenance and Operation of ITES, for a period of 10 years.”

- a. Application fee of Rs.**25,000 (Rupees twenty five thousand)**
- b. EMD of Rs.**1,00,00,000 (Rupees one crore)**
- c.

The technical bid shall contain the following:

- a. Index of documents with page number;
- b. A cover letter on the letter head of the Applicant in the prescribed format at 8.1
- c. Power of Attorney (in original) in favour of the authorised signatory of the bidder in the prescribed format at **8.5**; the Power of Attorney should be executed on a non-judicial stamp paper of appropriate denomination and should be registered or duly notarised by a notary public.
- d. Documents substantiating eligibility of the bidder.
- e. Presentation elaborating the brief methodology and implementation Plan
- f. Total compliance statement to the specifications and requirements with all relevant data sheet of the equipment proposed.

The financial bid shall contain the financial bid form as per the prescribed format at 8.7 and submit through Online.

5.11 DOCUMENT FEE AND BID SECURITY

The Bidder shall furnish, as part of the Bid, Earnest Money Deposit(EMD)/Bid Security for an amount Rs.1,00,00,000 (Indian Rupees One Crore), through online only.

The document fee (non-refundable) of Rs.25, 000(Indian Rupees Twenty Five thousand) shall be submitted by the bidder through online.

The successful bidder's bid security will be discharged only after the signing of the contract and submission of performance security.

Unsuccessful bidder's EMD will be discharged/ refunded as promptly as possible, but not later than 180 days of the validity period of the bid.

Exemptions available to Government firms and Small Scale Industries from payments of EMD and document fee can be availed only if they are a single bidder and cannot be claimed in case they participate as a consortium.

The Earnest Money shall be forfeited:

- a. if the Bidder(s) withdraws its bid during the period of Bid validity;
- b. in the case of a successful Bidder(s), if the Bidder(s) fails to:
 - i. sign the agreement; and/or
 - ii. furnish the required Performance Security
 - iii. if the bidder is found to be involved in fraudulent practices

5.12 ALTERNATIVE PROPOSALS BY BIDDERS

Bidder shall submit offers that fully comply with the requirement of the tender document including conditions of contract. Conditional offer or alternate offer will not be considered further in the process of tender evaluation.

5.13 FORMAT FOR SIGNING OF BID

- a. The bidders are required to fill up and submit all the formats as provided in this RFP.
- b. The bid shall be signed by a duly authorised person to sign on behalf of the bidder. All pages of the bid except any unamended printed literature shall be signed and sealed by the person signing the bid.
- c. The bid shall contain no overwriting, alterations or additions. If it is necessary to correct errors made by the Bidder, in which case such corrections shall be made by scoring out the cancelled portion, writing the correction and signing by the authorized signatory of the Bid.

5.14 FORMAT FOR SUBMISSION OF PROPOSALS

All the Bids (Technical & Financial bids) will have to be submitted ONLINE on Kerala e- tenders website only. The Technical & Financial Proposal shall be prepared in accordance with the requirements specified in this RFP and in the formats prescribed in Annexure 6 of the RFP. No other method/form of submission of the bids is permissible and shall be summarily rejected as being non-responsive.

5.15 DEADLINE FOR SUBMISSION OF BID

Complete Bid as specified must be submitted on Kerala tenders website, as specified in the RFP **on or before 15.03.2021, before 3:00PM (IST).**

KP may, at his discretion, extend the deadline for submission of bids by issuing an amendment in which case all rights and obligations of KP and the bidders previously subject to the original deadline will thereafter be subject to the deadline extended.

Offer by fax / e-mail will not be acceptable.

5.16 LATE SUBMISSION

No bids will be accepted after the deadline and portal will close automatically at the end of the deadline.

5.17 MODIFICATION AND WITHDRAWAL OF BIDS

Bidders may modify or withdraw their bid before the deadline for submission of bids. No bid can be modified or withdrawn after the deadline for submission of Bids.

5.18 OPENING OF BIDS

Total transparency shall be observed and ensured while opening the Bids. Technical Bids will be opened **at 3:00PM (IST) on 17.03.2021** at the address mentioned in RFP.

Bidder(s)'s representative may attend the opening, and those who are present shall sign evidencing their attendance.

The Bidder(s)'s names, bid modifications or withdrawals and such other details as KP at its discretion, may consider appropriate, will be announced at the time of opening.

The Financial Bids of ONLY the Bidder(s) who are qualified in Technical bid, will be opened.

5.19 EXAMINATION AND EVALUATION OF BIDS

KP reserves the right to modify the Evaluation Process at any time during the Tender Process, without assigning any reason, whatsoever, and without any requirement of intimating the Bidder(s) of any such change.

Any time during the process of evaluation, KP may seek for clarifications from any or all Bidders.

KP has adopted a two-stage bidding process for selection of the Bidder(s). In the first stage, the Bidder(s) are evaluated for technical competency and in the second stage, they would be evaluated based on their financial bids. The final award of the contract would be exclusively based on the least financial score amongst the technically qualified Bidder(s). Before going forward with the technical evaluation, eligibility qualifications of the Bidder(s) are checked.

Document Fee and EMD:

- a. Authority shall open the tender submitted online and check for payment of Document Fee and Earnest Money Deposit (EMD).
- b. Bidders, whose Document fee and Bid Security are found in order, shall be eligible for Technical Proposal Evaluation.
- c. At any stage during the evaluation, if the EMD is found invalid, the respective Bidder's bid will be summarily rejected as non-responsive.

Stage1-Technical Proposal Evaluation

- a. The technical bids will be evaluated by a duly constituted Evaluation Committee at a later date.
- b. During evaluation of proposals, KP may at its discretion, ask the bidders for clarification of their technical proposals.
- c. The bidders are expected to provide all the required supporting document and compliances as mentioned in the RFP. The bidder shall quote the solutions having full compliance with all the guiding principles and minimum specifications as mentioned in the RFP. Any deviation from the same will lead to disqualification.
- d. The Bidder(s) will have to fulfill all the Eligibility Criteria as specified in Clause 5.2 and will have to score a minimum of 70 marks in the Technical Evaluation as per marking scheme specified in clause 5.2, 8.1 in totality.
- e. Those bidders who do not fulfill the terms and conditions of Eligibility Criteria will not be eligible for further evaluation.
- f. Evaluation of Technical Proposals by KP shall not be questioned by any of the Bidders.

Note: If Bidder is an OEM, OEM declaration is to be provided, else MAF from OEM required for all products

Marking Scheme – Technical Evaluation

| Sl. No. | Particulars | Point System | Max Marks |
|-----------------------------------|---|---|-----------|
| A. Organisational Strength | | | 40 |
| 1 | Number of years since the bidder is engaged in sensor based automated enforcement systems(as on 31.03.2018) | More <i>than 5 Years</i> - 10 marks More than <i>3 and less than 5</i> Years - 5 marks Less than 3 years - 0 marks | 10 |
| 2 | Number of SVDS sites for which bidder has demonstrable expertise and experience in sensor based automated enforcement systems(as on 31.03.2018) | More than or equal <i>200 sites</i> - 10 marks More than or equal to 100 sites And less than <i>200 sites</i> - 5 marks Less than 100 sites - 0 marks | 10 |
| 3 | Average annual turnover: of Bidder in Last three financial years as on 31 ST March, 2018. <i>FY 2015-2016, 2016-2017, 2017-18</i> | More than or equal to Rs 250 crores – 10 marks More than or equal to Rs 200 crores and less than 250 crores – 8 marks More than or equal to Rs 100 crores and Less than Rs 250 crores – 6 marks More than or equal to Rs 75 crores and Less than Rs 150 ,crores – 4 marks Less than Rs 75 crores – 0 marks | 10 |
| 4 | Key professionals (Manpower) deployed for similar projects | More than 15- 10 marks More than 8 and upto 15- 5 marks Less than or equal to 8 - 0 marks | 10 |
| B. Technical Solution | | | 30 |
| 1 | Overall clarity in the technical proposal | | 10 |
| 2 | Quality of the proposed project execution methodology and plan | 1. Overall comprehensiveness- 4 marks 2. Project schedule- 2 marks 3. Resource planning/ allocation- 2 marks 4. Risk Management- 2 marks | 10 |

| | | | |
|---|---|---|------------|
| 3 | Personnel in Proposed Team | Evaluation based on Qualification and Experience of: 1. Programme / Project Manager – 1 marks 2. Operations Manager- 1 marks 3. Systems Analyst- 0.5 marks 4. Technical/Solutions Architect- 0.5 marks 5. Database architect- 0.5 marks 6. ITS Design Engineer- 1 marks 7. Systems Administrator- 0.5 marks | 5 |
| 4 | ISO 9001:2015; ISO 27001:2013 and CMMI Level - 5 certification | Level 3/5 | 5 |
| C. Technical Presentation (see presentation evaluation criteria below, 1-6 below) | | | 10 |
| D. POC | | | 20 |
| Technical Marks (TM) | | | 100 |
| Minimum Qualifying Score | | | 70 |

On the prescribed date and time, the bidder shall make a technical presentation covering the areas given in the table below. The presentation will carry a maximum of 10 marks out of a possible 100 technical marks available for each bid. The criteria for evaluation during the presentation is given below:

| Sl. No | Presentation Evaluation Criteria | Marks |
|--------|---|-------|
| 1 | Understanding of Scope of Work | 1 |
| 2 | Approach and Methodology | 2 |
| 3 | ITES solution design and architecture | 2 |
| 4 | Implementation strategy (Pilot and state-wide roll out) | 2 |
| 5 | Manpower/Resource deployment plan | 2 |
| 6 | Project plan/Implementation timelines | 1 |

The price bid of the bidders whose technical bids have scored a minimum of 70 marks shall be opened for evaluation. Financial bids of the Bidder(s) failing to meet the minimum score will remain unopened.

At any point of time, if the KP feels that the Bidder(s) is/are hiding any information, which will affect the project cost in short, or long run, KP may reject the bid without assigning any reason or explanation.

The technical score of a Bidder will be assigned to the Bidder and it will be awarded based on the Technical Evaluation Criteria as specified above. The KP's decision in this regard shall be final and binding and no further discussion will be held with the Bidder(s) whose bids are technically disqualified/rejected. Bidder(s) with technical score of 70 and above would be declared as qualified for the financial evaluation. The total technical scores achieved by the Bidder(s) shall be shared with the Bidder(s) and under no circumstances the detailed technical score shall be shared with the Bidder(s).

5.19.1 REVENUE MODEL

- ❖ Bidder revenue will be sharing percentage of violation fines collected from offenders.
- ❖ Sharing of percentage of revenue will depend on the percentage of realization of fines.
 - % Revenue offered to Government if 100% of chalans is realized :
 - % Revenue offered to Government if 90% of chalans is realized :
 - % Revenue offered to Government if 80% of chalans is realized :
 - % Revenue offered to Government if 70% of chalans is realized :
 - % Revenue offered to Government if 60% of chalans is realized :
 - % Revenue offered to Government if 50% of chalans is realized :
 - % Revenue offered to Government if <50% of chalans is realized :
- ❖ After 5 years, the rate of percentage of revenue offered to the Government would increase by 5% every year, the reason being the vendor would have recouped his major investment by such time.
- ❖ Disbursement of the share to the vendor will be settled on a monthly basis.
- ❖ The entire penalty that is collected from the Commuters shall be collected in an Escrow Account. The percentage of share of the Government will be automatically credited to the Government and the shares of the vendor would also designed in such a manner, that all members in case the vendor is a Consortium can automatically receive their respective share at the time of monthly payments.

5.19.2 FINAL SELECTION CRITERIA

The successful bidder will be the technically qualified bidder who offers the maximum share to the Government as per the Revenue model.

5.20 IMBALANCED BID

If the Bid of the successful Bidder is seriously imbalanced in relation to the KP's estimate of the cost of work to be performed under the contract, KP may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of the proposed System. After evaluation of the price analyses, KP may require that the amount of the performance security set forth in Clause 5.28 be increased and an additional performance security may be obtained at the expense of the successful Bidder to a level sufficient to protect KP against financial loss in the event of default of the successful Bidder under the Contract. The amount of the additional increased performance security shall be decided by KP, in accordance with the seriously imbalanced amount, which shall be final, binding and conclusive on the bidder. The Performance Bank Guarantee is reduced to 0.25% in case of the Boot Model and that can be taken back after the project is rolled out

5.21 PROCESS TO BE CONFIDENTIAL

Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any attempt by a Bidder to influence KP's processing of bids or award decisions may result in the rejection of his Bid.

5.22 AWARD CRITERIA

a) Subject to Clause 5.24, KP will award the Contract to the Bidder(s) with the highest financial score shall be invited by KP for contract negotiations. On acceptance of proposal for awarding the contract, KP will notify the successful Bidder(s) in writing that their proposal has been accepted and contract agreement will be signed.

(b) KP may, as per convenience choose to appoint different bidders for each of the 4 Police Zones in the state. Also KP can direct the bidder to include more areas, more numbers of cameras/devices and the latest technologies for traffic enforcement, on the same terms and conditions already worked out in the tender.

5.23 KP'S RIGHT TO REJECT ANY OR ALL BIDS

KP reserves the right to reject any Bid, and to annul the bidding process and reject all bids at any time, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision.

5.24 NOTIFICATION OF AWARD OF CONTRACT

- a. Prior to the expiration of the Bid validity, KP will notify the successful bidder that his Bid has been accepted.
- b. The Contract Agreement will incorporate all agreements between KP and the successful Bidder. It will be signed by KP and the successful Bidder after the performance security is furnished.
- c. Upon furnishing of the Performance Security by the successful Bidder, KP will promptly notify the other Bidders that their Bids have been unsuccessful. EMDs of successful as well as unsuccessful bidders will be returned back to them after signing of contract agreement with the successful bidder.
- d. The successful Bidder(s) has/have to show a live demonstration of the proposed technical design of major subsystems to the satisfaction of the client, within 12weeks from the date of award of contract. This has to be done at the bidder's cost and effort. Failure to perform as per the expectations of KP would make the contract liable for cancellation. The decision by KP would be final in this regard.

5.25 CONFIDENTIALITY

- a. The Bidder shall keep confidential any information related to this tender with the same degree of care as it would treat its own confidential information. The Bidders shall note that the confidential information will be used only for the purposes of this tender and shall not be disclosed to any third party for any reason whatsoever.
- b. As used herein, the term "Confidential Information" means any written information, including without limitation, information created by or for the other party, which relates to internal controls, computer or data processing programs, algorithms, electronic data processing applications, Source Code, routines, subroutines, techniques or systems, or information concerning the business or financial affairs and methods of operation or proposed methods of operation, accounts, transactions, proposed transactions or security procedures of either party or any of its affiliates, or any client of either party, except such information which is in the public domain at the time of its disclosure or thereafter enters the public domain other than as a result of a breach of duty on the part of the party receiving such information. It is the express intent of the parties that all the business process and methods used by the Bidder in rendering the services hereunder are the Confidential Information of the Bidder.
- c. At all times during the performance of the Services, the Bidder shall abide by all applicable KP security rules, policies, standards, guidelines and procedures. The Bidder should note that before any of its employees or assignees is given access to the Confidential Information, each such employee and assignees shall agree to be bound by the term of this tender and such rules, policies, standards, guidelines and procedures by its employees or agents.
- d. The Bidder should not disclose to any other party and keep confidential the terms and conditions of this Contract agreement, any amendment hereof, and any attachment or Annexure hereof.
- e. A copy of **Non-Disclosure Agreement** as per the enclosed format at **section -8** has to be signed by the successful bidder and its employees during signing of the contract agreement. The obligations of confidentiality under this section shall survive rejection of the contract.
- f. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any public undertaking, autonomous body, authority by whatever name called under the Central or the State Government.

5.26 SIGNING OF AGREEMENT

- a. At the same time that KP notifies the successful bidder that his bid has been accepted, the KP will direct him to submit the Performance Security and inform the bidder for signing of the Contract Agreement.
- b. The format of Contract Agreement shall be finalised by KP at later date and the successful bidder shall be bound to sign the contract as finalised by KP.
- c. In case the bidder fails to sign the contract is due time, KP may declare the bidder as disqualified and bidder's EMD shall be forfeited.
- d. In such case, KP reserves the right to award the contract to next successful bidder or re invite the bids, as KP may choose.

5.27 IRREVOCABLE PERFORMANCE SECURITY

- a. Within 30 (Thirty) days of the receipt of the Letter of Award, the successful Bidder shall submit performance security in the form of Bank Guarantee for 0.25% of the value (estimated revenue per annum for the first twelve months of the project) in accordance with clause 5.20 and relevant conditions of contract.
- b. The Performance Security shall be submitted in the form of Bank Guarantee issued in the name of KP, by a bank mentioned under clause 5.28 as per the format given in Section 8.8 and shall be valid for a period of 180 days after the expiry of contract period.
- c. The Performance Guarantee shall be payable to KP as a compensation for any loss resulting from the Contractor's failure to complete its obligations under the contract.

5.28 BANK GUARANTEE (BG)

The Bank Guarantee in the name of the KP, issued by the following banks would only be accepted: -

- a. State Bank of India or its subsidiaries
- b. Any Indian Nationalised Bank
- c. A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalised Bank.
- d. Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs.500 Crore as per the latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.
- e. Export Import Bank of India

The acceptance of the guarantee shall also be subject to the following conditions: -

- a. The capital adequacy of the Bank shall not be less than the norms prescribed by RBI (presently 9, with effect from 31ST March, 2003,10).
- b. The bank guarantee issued by a Cooperative Bank shall also be accepted.

5.29 CORRUPT OR FRAUDULENT PRACTICES

- a. KP will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- b. KP will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the Government of Kerala, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contractor, or during execution.
- c. "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution.
- d. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of KP and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive KP of the benefits of free and open competition.

- e. A copy of Integrity Pact as per the enclosed format at **Annexure 7** has to be signed by the successful bidder during signing of the contract agreement.

6. SCOPE OF WORK

6.1 BACKGROUND

Undisciplined Speeding, etc. on Highways across the state have resulted in major unwanted accidents causing serious injuries and loss of life which is a very major concern for all state authorities. These accidents that has been the major cause for injury and deaths amongst citizens, has prompted the authorities to look for a disciplined motoring awareness among the citizens, for which Speed Monitoring and Enforcement and Red-light Violation Detection is a must. Moreover, a number of accidents involving two-wheelers result in fatalities or severe injuries to riders who do not wear helmets. Hence, Helmet Absence Detection System is also necessary. Automated enforcement systems that are totally free from human interference is an important tool for effective counter-measure to reduce crashes and accidents, reduce fatalities and reduce emissions caused by motor vehicles. The system relies on automated enforcement technologies to identify and penalise vehicles that are non-compliant with respect to emission norms.

As part of this project, Kerala Police would like to install and connect around 200 Speed-limit Violation Detection Systems (SVDS), 400 AI Camera (Artificial intelligent) based Enforcement System, 60 Mobile SVDS systems with vehicles, 30 Red-light Violation Detection Systems (RLVD) and 100 Helmet Absence Detection Systems (HADS) and the proposed ITES system will identify non-compliance of the Expired Pollution Under Control (PUC) Certificate.

6.2 PROJECT SUB-SYSTEMS

- a. Single radar based SPOT, ANPR based average speed violation and PUC compliance enforcement systems is proposed along with all vehicle Capture & ANPR capability for crime analysis & detection.
- b. Camera based Red-light Violation Detection system to capture the details of vehicles jumping red-light at traffic signals and check PUC compliance of all vehicles
- c. Camera based Helmet Absence Detection System to identify and capture details of two wheelers where the rider and/or passenger do not wear helmets.
- d. Connectivity to all sites will be via 4G/OFC/ADSL
- e. A state of art command & control centre for Kerala Police department to centralise its activities of traffic monitoring and law enforcement. The proposed centre should be capable of connecting minimum of 300 Nos of automated enforcement systems at present and should be scalable of connecting more systems in future. Central Control centre should have the required hardware: servers, storage etc. for challan processing, payment management operation including online payment.
- f. Back end Software at control room includes challan processing, All vehicle ANPR, Vehicle analysis, Integration and fetching of MVD Vehicle database, MVD & Police enforcement database integration, printing, dispatch, Payment management software. System supports payment of fine by online transfer, debit / credit cards, bank transfer and also cash payment collection centres.
- g. AI Camera (Artificial intelligent) based Enforcement System to identify seat belt, wrong number plate, wrong side riding, helmet, no parking, two wheeler triple riding, lane violations etc.
- h. Single radar based vehicle mounted mobile SPOT speed violation and PUC compliance enforcement systems.

6.2.1 DOPPLER RADAR BASED SPEED VIOLATION DETECTION SYSTEM – SVDS

The system should detect and record evidence of over speeding vehicles. Unmanned detection should be provided day and night. It should consist of a number of ANPR grade cameras installed on the road, on suitable gantry, pole or any other suitable structure (Capture Point Units) connected to the Central control room. It should be possible for a number of such Capture Point Units to be connected to the same Central control room.

Vehicle speed should be detected by physical Sensor single Doppler multi-vehicle tracking radar. The sensors should detect any violating vehicles and give capture command to the camera for capturing images of the number plate of the violating vehicle. Single radar should be able to capture speed of vehicles on 4 lanes in both directions and should be upgradable to 6 lanes in the future.

One common camera per road should be used to take wide-angle shots of all the lanes. Two wide angle video shots spaced in time should be taken to prove that the vehicle was moving on the road, for each violation. All lane and overview cameras should also be connected to respective high power visible flash or a pulsed infrared flash, for night time capture. The system should also be able to capture clearly both Retro type and Non-retro type number plates which are common in Indian condition.

The registration number of all the passing vehicles should be captured by the ANPR module of the SVDS system and sent to the ITES backend. The registration number will be matched against PUC certificate database by the ITES system to issue PUC compliance violation challans. The evidence captured by the common camera should be sent to the ITES backend for vehicles identified with PUC certification non-compliance. Government is planning to implement such a PUC data base.

The field system should consist of electronics for speed calculation/sensor interface, camera control, control room communication, local storage of violations, Power backup, surge protection, etc. Local storage minimum 256 GB (SSD) should be provided per road, for buffering violation data. The system should have health monitoring features, i.e., Monitoring of Temperature, Battery status, Power supply status, camera status, etc. Protection against lightning, under/overvoltage conditions, etc. should also be provided. The Health Monitoring Data should be transmitted to the centralized back end system. Health monitoring information and alerts should be displayed in the control room.

The basic requirements of the system are as follows:

- I. Front or back side capture: System should be able to capture the front side or back side of vehicles with number plate for day and night conditions.
- II. Method of speed measurement: Both Spot speed at point of installation and Average speed between two adjacent spot speed points should be measured, with NTP/GPS synchronised clocks. This will ensure that vehicles slowing down at check-points and again speeding away are also captured.
For average speed system, time synchronization of each site with GPS/ NTP method suggested. Distance between sites should be obtained from PWD/NHAI or measured by suitable means with acceptable accuracy.
- III. ALL vehicle ANPR capture system: The over speed enforcement systems should also be capable of capturing number plate and images of all vehicles passing through the installed location. All vehicle images and numbers should be transmitted to control room and kept in database for real time alerts or for post search for crime analysis purposes. Vehicle images should be also captured under all conditions of day and night.
- IV. Real-time alerts: It should be possible to generate Real time alerts for hot listed vehicles at the control room. Also, the data should be kept in the control room for minimum 1 month for doing post analysis, when a crime has occurred. Such systems are useful for:

- a. Crime Investigation
- b. Hit and Run Detection
- c. Vehicle Theft Detection
- d. Anti-terrorism
- e. Anti-smuggling
- f. Hot listed Vehicles Detection

**6.2.1.1 MINIMUM FEATURES FOR THE ANPR CAMERA SYSTEM
(Higher specs and models are welcome)**

- a. ANPR camera technology: ANPR cameras deployed should use Fast electronic shutter (low exposure time) should be used to capture even vehicles moving at 240 km/h without any image blur. Frame rate should be sufficient to capture all violations and all vehicle ANPR video.
- b. Day and Night Condition: ANPR cameras should work for Day & Night conditions without depending on any ambient light. All lane cameras should also be connected to respective high power infrared, for night time capture. Flash should have high cycle frequency and the possibility to function in bursts of at least 4 consecutive flashes at intervals < 200ms.
- c. Normal and Retro-reflective number plate capture: ANPR camera should be able to capture both "Retro reflective" and "Non-reflective" type of number plates found in India
- d. High number plate recognition accuracy: Automatic number plate recognition accuracy for standard and even near standard number plates should be 90% all around, with max 1 character error.
- e. High quality vehicle image capture: Apart from the number plate capture, high quality vehicle images (**minimum 2 MP per lane or better**) should also be captured for the purpose of identifying the vehicle for post crime analysis purposes.
- f. Streaming video: Real time streaming to control room not required, but all vehicle capture mode is mandatory and same should be available in control room.

Detailed technical specifications for ANPR cameras are given further down in this RFP document in the Bill of Quantities section

6.2.2 RED-LIGHT VIOLATION DETECTION SYSTEM -RLVD

The RLVD shall be installed on all approaches to the identified junctions. The RLVD system shall automatically detect vehicles that cross the stop-line or pass through the junction when the traffic signal is red.

The system shall capture the details of the violating vehicles on all lanes (up to 5 lanes) of the approaches. For RLVD & SVDS Mostly 2 lanes and very few 3 lane systems may be required. Unmanned detection should be provided day and night. It should consist of the required number of ANPR grade cameras and any other required equipment installed on the road, on a suitable gantry, cantilever pole or any other suitable structure (Capture Point Units) installed typically on the median. The system shall be non-intrusive and should not involve installation of any

Sensing devices on the road surface. The system shall be capable of detecting and capturing multiple infractions simultaneously in different lanes on each approach at any point of time. The system shall include an IR for night time operations. The RLVD sites shall have a UPS with battery backup for at least 120 minutes of uninterrupted operation during power outages. In case of TCP/IP connectivity failure to the control room, the RLVD system shall locally store evidence data and send it to the control room upon the resumption of connectivity. The system shall have necessary storage

capacity to store evidence data for seven days locally.

The registration number of all the passing vehicles should be captured by the ANPR module of the RLVD system and sent to the ITES backend. The registration number will be matched against PUC certificate database by the ITES system to issue PUC compliance violation challans. The evidence captured by the RLVD cameras should be sent to the ITES backend for vehicles identified with PUC certification non-compliance.

The RLVD units shall be connected to the Central control room and RLVD back-office application shall run on centrally hosted servers with the ability of the control centre staff to use the application. The system shall send the evidence information in an XML format keeping in mind the future extensibility and interoperability requirements. It should be possible for a number of such Capture Point Units to be connected to the same Central control room. The RLVD system shall capture evidence of violations that are legally admissible in court. The evidence should, at a minimum consist of (a) a perspective colour photo of the violation clearly showing the vehicle jumping the red-light and the traffic signal colour, (b) a close-up high-quality (minimum 2 MP per lane or better) colour photo of the vehicle clearly showing the number plate of the vehicle in day time and night (c). ANPR image of vehicle with clear number plate images and 2 evidence images. A five second perspective video showing the violation event. The system shall display the site name, the approach name, the date and the time-stamp on the violation images. The RLVD back office system shall be integrated with the e-challan system used by Kerala Police.

Every violation should have an image of vehicle with number plate.

The minimum specifications for the ANPR camera used shall be the same as the ANPR specifications mentioned above for SVDS.

6.2.3 HELMET ABSENCE VIOLATION DETECTION SYSTEM- HAVD

The system should be able to identify riders of two-wheelers not wearing helmet. The system should be able to distinguish cap, construction helmet and turbans from helmet and mark it as "Compulsory helmet rule violation". The HAVD system shall function automatically without manual inputs with the following functionality:

- a. The System should automatically detect two-wheelers in the camera view using video detection, determine the presence or absence of helmets on the rider and the passenger and activate number plate recognition in case of violations. All violations should have image of the rider with clear readable number plate image. Bidder may use one or more cameras.
Every violation should have an image of vehicle with number plate.
- b. The system shall be highly scalable so that the number of cameras can be increased in the future
- c. The system shall be able to carry out HAVD function on vehicles travelling up to **180 km/h**
- d. System shall have optional capability to identify and eliminate riders covering their face using scarf and flag them
- e. The system shall send violation evidence consisting of at least a high-quality photo and a five second perspective video showing the violation event.
- f. The system shall display the site name, the road name, the date and the time-stamp on the violation images. The HAVD back office system shall be integrated with the e-challan system used by Kerala Police.
- g. The system shall send the evidence information in an XML format keeping in mind the future extensibility and inter operability requirements.

The registration number of all the passing vehicles should be captured by the ANPR module of the HVAD system and sent to the ITES backend. The registration number will be matched against PUC certificate database by the ITES system to issue PUC compliance violation challans. The evidence captured by the common camera should be sent to the ITES backend for vehicles identified with PUC certification non-compliance.

The minimum specifications for the ANPR camera used shall be the same as the ANPR specifications mentioned above for SVDS.

6.2.4 POLLUTION TESTING

As per the Government of India's Motor Vehicle Act/Motor Vehicle Rules (MVA/MVR), in addition to complying with all traffic rules, all vehicles should have necessary statutory certificates and documents that are valid at the time when the vehicle is in operation. Non-observance of traffic rules, having invalid documents and/or not carrying required documents would all be a violation of the said act and violators that are caught can be issued a Challan by the concerned Law Enforcement Personnel (LEP) of RTO and/or Traffic Police. Currently, the process of identification of violators and issuance of Challan is a manual process and has large gaps in its effective implementation across the state. ITES is also being deployed to plug the gaps in detection of statutory violations and issuance of Challans. Compliance for a valid PUC certificate will be within the scope of this project.

The statutory certificates/documents covered by ITES are given below:

- a. **PUC Certificate** - Each vehicle should have a valid PUC document which is required to be renewed for every six months as per the State Government rules. The same document is valid all over the Country. This Certificate is issued by the RTO approved authorised PUC centres.

The enforcement system to achieve the above mentioned objectives shall be called Integrated Digital Traffic Enforcement System (ITES). The proposed ITES system will identify non-compliance of the following statutory violations:

- a. Expired Pollution Under Control (PUC) certificate
Government is planning to implement a PUC database.

6.2.5 CONTROL CENTRE General Requirements

The ITES system is intended to automate the existing process of violation processing and Challan generation. The Successful Bidder will have to understand the current practices and procedures of issuing valid certificates and documents for the above mentioned statutory compliances. The ITES system shall follow and automate the existing process of violation processing and Challan generation. The successful Bidder(s) shall conduct a detailed requirement analysis, design, develop and test the ITES system to the satisfaction of the KP, before rolling it out for implementation.

A state of art command & control centre for Kerala Police department to centralise its activities of traffic monitoring and law enforcement is envisaged as a part of this project. As part of this project, Kerala Police would like to connect around 350 sites at present to the proposed command and control centre, in a safe and secured way. The system architecture should be scalable for future expansion. Final BOQ provided in Annexure 2.

Consider a central command control centre, capable to accommodate the connectivity and expansion requirements of Kerala Police . As part of this proposal, consider one server cluster pair, 48 TB video storage, suitable backup and ANPR-i7 PC, for every 100 sites. Consider central fire wall to makes sure the security and availability aspects. And the data connectivity requirement from field sites to central location will be around 50Mbps per 100 sites.

Other than video storage (3-month cyclic buffer with 1:1 mirroring), consider 64TB DB storage and 3-year violation data + video storage. Required Violation processing software Server should have access to all 3 storages as per the deployment architecture diagram shown. ANPR-GIS application software should runs on another server cluster, which will also have access to all storage. Data from this system should be linked to an existing PSM server.

Civil work on this project should include total fabrication from build free space, AC, furniture,

electrical, UPS, networking, interior and CCTV, access control, fire alarm panels, generator etc.

Proposed solution should cover minimum 10 years total support, covering all aspects including hardware, system admin, support manpower etc. Required support for configuration of system, software installation etc should be provided by vendor. Vendor should also provide full design docs, power, networking cabling etc as part of the project.

One central control centre, is proposed for managing all activities, and to act as central command and control centre. Same centre will have hardware (servers / storage etc.)for running all software applications for system management.

The Central control room should receive all the traffic enforcement data and images from site installed hardware. It should have Servers and storage to keep the details of violating vehicles for a minimum period of 3 years. Client PCs with Networked Laser printers for Violation memo processing / printing should also be provided. The control room should use clustered server pairs for failure over condition. NAS storage should be provided as backup storage of violation data. Redundant UPS should be provided for all systems.

Main Control room components.

- a. Clustered Server for Violation memo processing
- b. Clustered Server for payment Management software
- c. Storage for servers
- d. ANPR Processing system and ANPR licenses at control room
- e. Backup Storage
- f. Client PCs
- g. Heavy duty Printers
- h. Enterprise grade Network Switches,
- i. Firewall
- j. Redundant UPS for entire CR operation
- k. Control room Rack and other accessories
- l. Industrial grade electrification and structured networking with CAT 6
- m. Video recording, viewing hardware
- n. Fire alarm and management systems
- o. Automated generator system
- p. Entire interior work, etc.

Fire Suppression System

To minimise the risk of damage caused by Fire, an environment Friendly Clean Agent Based Automatic Fire Suppression System has been proposed for the Server Area, Workstation area, UPS Room, Battery Room.

VESDA (Very Early Smoke Detection System)

Early detection of smoke would be the key factor in preventing the fire from developing. The earlier a fire is detected and extinguished, the less damage will be caused. It is an aspirating smoke detection system that provides the earliest possible warning to incipient fires.

Control room software

Violation memo processing software

Once a traffic violation has occurred, the violation images and data should be sent to control room from the field hardware on the road. The Violation memo /processing software should be capable of preparing the charge memo /and printing the same for dispatching to the vehicle owner.

The Processing of offence Challan could be handled by 1.Operator 2.Approving officer and 3. Dispatch section.

The process flow could be as given below.

- a. The CR Server should periodically download offence data from the field units as programmed / scheduled. Vehicle numbers from the number plates are extracted automatically by ANPR software. The Operator views them and does any correction if required.
- b. Corresponding to vehicle registration number, vehicle owner database is required for offence processing, which could be obtained from the motor vehicle department database, with suitable software interface.
- c. Challans which are ready for approval, are moved to the server under proper database category. Those that cannot be processed, can be moved to a rejected database with reasons for the same.
- d. The Officer authorised to approve the challans (using User Name / Password specific to the officer,) views the challans, approves them, and marks them for dispatch and fine collection. The data goes to 'approved' category database. (These challans cannot be further modified by any other Operator / person). The Officer can also reject any if required.
- e. The Operator prints and issues the authorised Challans and takes hard copies as required. He also issues same to offender by email/ post. All issued Challans are then moved to server database under Category 'Issued'.
- f. Once challans are issued, the same data is moved to Payment management software / server for payment collection processing.

Offence Details from the violation processing system

Unique ID of violation, Date and time, Number plate image, (day/night with flash) , Registration number, address of owner, Court evidence images, Location Name and lane number, MVD rules, Fine to be paid, last date etc. any other details of violation, etc.

Other required features of processing software suite

Management of multiple Automatic Violation Capture Units, their Configuration etc. should also be managed by the application software. It should be possible to configure the lane, camera, capture and time settings, etc. also through the application software.

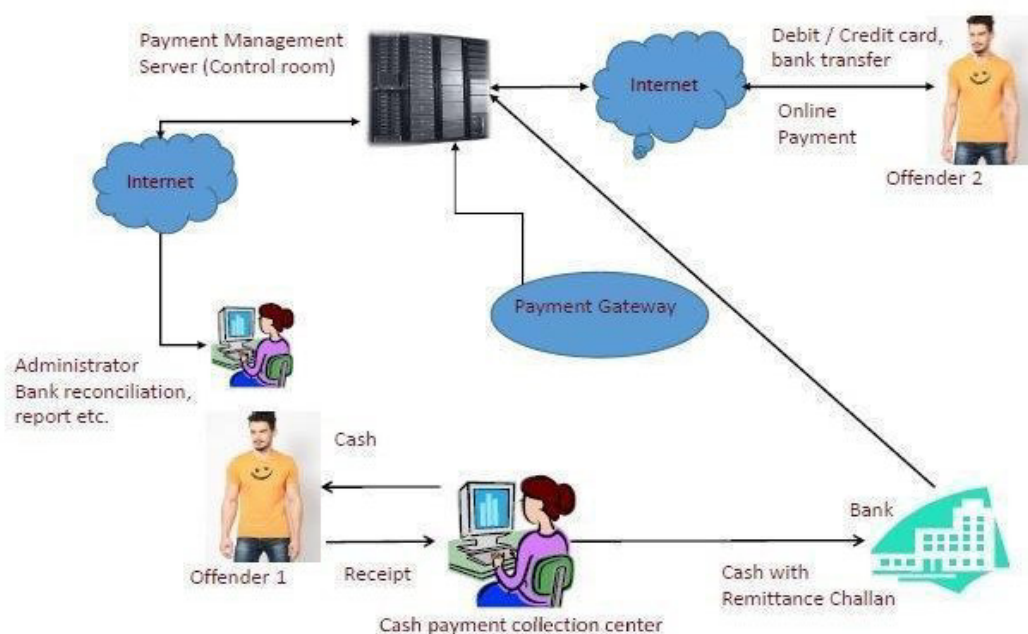
PAYMENT MANAGEMENT SYSTEM ARCHITECTURE

Payment management system should be a web based system that automates the process of fine collection by the Authorised Department, for offences committed by vehicle owners. Its server computer should be located at the central control room.

Two modes of fine payments are possible,

- Fine can be collected by designated cash counters. Two such stations are recommended at 2 end of the highway.
- Fine can also be collected by electronic payment using debit / credit card or bank transfer.

Payment Management System Architecture



Payment Collection

Cash payment collection could be as follows:

The offender comes to the cash counter of any of the authorised offices in the state and remits the fine, with help of a web connected PC linked to central Payment management server. An online receipt is also printed by the central server, once cash has been received. Various reports

on all the activity like daily collection per office, amount remitted in bank etc. should be available for viewing by the administrator.

Online Payment

There should be a provision for online payment through internet from anywhere using

- a. Debit card / credit card payment through a Payment gateway
- b. Bank to bank electronic transfer.

6.3 ITES SYSTEM REQUIREMENTS

The Systems proposed should have proper TEST Reports and Certifications and should already be in use in more 100 systems.

Certifications: The Quoted solution should be in accordance to OIML R 91, OIML D11 and Welmec 7.2 test certification compliance (India is signatory to OIML regulations).

The system should have proper test reports for speed accuracy and should have legal decree/home-approval in name of OEM from EU/US/JAPAN/UK/SWIZERLAND/SOUTH AFRICA/AUSTRALIA

The certification copy should be authenticated by Indian embassy (to authenticate that systems are legalized and tested for infractions to avoid legal issues) or should have Apostille. Speed test reports to be submitted from third party (authorized company to issues test reports for E fine generation for speed) before date of publication of tender.

Product should already be in use with enforcement authorities (at least 100 such systems) and should be in use for generating fines and legal decree/should be in name of solution OEM and not sensors.

The Average Speed System should also have proper Test Calibration reports & Certifications in form of Legal decree/Home approval form some developed countries as mentioned above. The OEM should have proper testing lab for calibration of speed systems and should be certified by some internal standards which are being accepted for home aproval/legal decree/issuing of fines in developed countries as mentioned above.

The above certifications are a must to prove that the OEM's are following statutory requirements of the country and the traffic/speed violations recorded are from certified products with marginal error allowed as by the country laws.

6.3.1 MINIMUM TECHNICAL SPECIFICATIONS FOR SVDS

(Higher technical Specifications are preferred)

SINGLE DOPPLER RADAR BASED SPEED VIOLATION DETECTION SYSTEM (SVDS) WITH ALL VEHICLE ANPR

Objective:

Advanced Doppler radar to detect over speeding vehicles and captures images and registration

number of such vehicles. System should work fully automatically during day and night, and also captures court evidence images.

Field hardware components

| Sl. No. | Category | Specification |
|---------|---|--|
| 1 | Single Doppler Radar(1 per road) Per Direction | Advanced Tracking Doppler Radar-K Band 24GHz FMCW (Frequency Modulated Continuous Wave) Should detect and measure speed of vehicles. upto 180 Km/hour. Multilane operation with the ability to track upto 10 vehicles simultaneously capture atleast 10 over speeding vehicles per second Speed Accuracy +/- 3 km/h Should be possible to classify 2 wheeler, Auto, Car, Bus etc. by the system Complete unit should be IP66, from -30°C to 55°C |
| 2 | ANPR Camera for License Plate Capture with IR Illuminator (1 camera per lane) | ANPR Camera should be Megapixel type IP cameras, (min 2 MP camera per lane) True day & night camera Colour images for day, monochrome images for night CMOS Global shutter sensor Minimum Vertical resolution: 1080 lines Exposure time maximum 1 milli second. Infrared pulsed illumination for each camera/ANPR Unit. |
| 3 | Camera for evidence capture(1 per road,) | Evidence Camera (wide angle road view) should be Mega pixel type IP cameras, min 4 Mega Pixel per road True day & night camera Colour images for day and night CMOS Global shutter sensor, with Lens. |
| 4 | IR Pulsed illumination for ANPR detection | Infrared flash for image capture at night Synchronized flash with global shutter of camera Wavelength: 850 nm, Flash power sufficient to capture vehicle Images also at night. Capability to capture retro reflective and non-reflective Number plates. Complete unit should be IP66, from 0°C to 55°C |
| 5 | Violation images. | For each speed violation one lane – ANPR image of vehicle with clear number plate images and 2 evidence images. A five second perspective video showing the violation event. (video on demand from site) evidence camera image not required for average speed |
| 6 | Vehicle image Capture | Along with number plate, high quality image of vehicle, also to be captured at Day and Night conditions for all vehicles. Evidence camera should capture wide angle shot of full road and surroundings with minimum two images of vehicle moving on the road. |
| 7 | Speed Enforcement Method | System should support & enforce both Spot speed and Average speed, ANPR camera captures vehicle image / vehicle registration number, based on trigger from Radar sensor with time stamp |

| | | |
|----|---|--|
| | | and speed information. Accurate time stamp synchronised with GPS or NTP servers required for Average speed enforcement |
| | | between two ANPR cameras. Violating vehicles should be |
| | | marked on the image, to avoid misinterpreting different vehicle. |
| 8 | All vehicle - ANPR capture Mode | Captures all vehicles passing through the installed location. All vehicle images and numbers are kept in database for real time alerts / search for crime analysis. Vehicle images should be captured even if the number plate is not automatically detected,(example: damaged / unreadable number plates or even absence of number plates) |
| 9 | ANPR accuracy | High ANPR accuracy >90% all around capability for standard or near standard number plates with maximum 1 character error. |
| 10 | Vehicle detection rate (percentage of vehicles captured) | High vehicle detection rate: greater than 95% of all vehicles captured under all conditions, irrespective of number plate quality, in free flow traffic conditions. |
| 11 | Front / rear side capture | Should support both one at a time. System should be capable of either rear or front side capture |
| 12 | Classification | Should be possible to classify 2 wheeler, Auto, Car, Bus etc. |
| 13 | Vehicle speed accuracy | Speed measurement accuracy better than +/-3 km/h, Speed >180 km/h. With national or international metrological calibration certificate for speed sensor. |
| 14 | Road side processing hardware and software, storage, network switch | Roadside Embedded hardware, network switch etc. Local storage with 256GB or more storage site. All industrial grade hardware should be provided. |
| 15 | SVDS Configuration | 2/3/4 lanes per direction |
| 16 | Power supply | Mains power with 120 minutes backup with lightning, under/over voltage protection etc. |
| 17 | Health Monitoring and control. (from control room) | Temperature, battery status, Power supply working status, Camera status. Remote control of system. The Health Monitoring Data should be transmitted to the centralized backend system. Health monitoring information and alerts should be displayed in the control room. |
| 18 | Field Enclosure | Pole mounted outdoor type, with rugged, with Rain canopy etc. All connectors, cables etc. Should be of industrial grade and any Hardware should be easily replaceable. |
| 19 | Operating environment | 0-55 degree Celsius, up to 95% Relative Humidity. IP 65 rating. |
| 20 | Lightning arrester | As per BIS standard IS 2309 of 1989 |

| | | |
|----|--|------------------------------------|
| 21 | Data encryption between field units and control centre | Advanced Encryption Standard (AES) |
|----|--|------------------------------------|

System Bill of Quantity (BoQ) for SVDS

| | |
|-------------------------------|---------------|
| No. of 1/2/3 lane roads | See Final BOQ |
| Connectivity to control room | See Final BOQ |
| Installation of field systems | See Final BOQ |

| Sl. No. | Category | QTY / road |
|---------|--|--------------------|
| 1 | Speed sensing Radar (one per road in one direction) | 1 per road |
| 2 | Camera for Number Plate Capture (covering all lanes, at least one camera per one lane) | 1 per lane |
| 3 | Camera for evidence capture (for all roads) | 1 per road |
| 4 | IR Flash for evidence camera | As Per requirement |

| | | |
|---|--|------------------------|
| 5 | Infrared Flash for Illumination (for all lane. one flash at least per one lanes) | As per requirement |
| 6 | Road side processing hardware and software (as required) | 1 |
| 7 | Camera mounting gantry / cantilever | As per the requirement |
| 8 | Any other Accessories like Electricity connection, Broadband connectivity for Installation | As per the requirement |

HARDWARE FOR FINE COLLECTION CENTRES

| Sl. No. | Product | |
|----------------|--|---|
| 1 | Desktop PC-Core i7. 8GB RAM, 1 TB HDD, Key board & mouse monitor, Windows 7 pro or equivalent or higher, monitor | 2 |
| 2 | Firewall-CPAP-SG1180-NGTP-1180 NGTP Appliances with 10 blades suite,Wired,CPSB-NGTP-1180-2Y-Next Generation Threat Prevention Blades Package for 2 years for 1180Appliance, CPACPAP-SG 1180-NGTP-Standard Collaborative Enterprise Support or equivalent | 2 |
| 3 | UPS 1KVA with minimum 3hr backup | 2 |
| 4 | Internet connectivity – minimum 4 Mbps | 2 |
| 5 | Medium duty laser printer | 2 |
| 6 | Attendance system, IP connected CCTV camera | 1 |

6.3.2 MINIMUM TECHNICAL SPECIFICATIONS FOR RLVD

(Higher & better specifications are preferred)

Field hardware components

| Sl. No. | Category | Specification |
|---------|--|---|
| 1 | Evidence camera | <p>Evidence Camera (wide angle road view) should be Mega pixel type IP cameras, min 4 Mega Pixel per road True day & night camera</p> <ul style="list-style-type: none"> • Colour images for day, monochrome images for night • CMOS Global shutter sensor with lens. • Video compression: H.264 /JPEG • Video resolution: 2 Mega pixels per lane • Minimum illumination: Colour: 0.5 lux, B/W: 0.1lux • Signal/Noise ratio: ≥ 50 Db • Supported protocols: standard protocols • Certification: EN/IEC/FCC /CE |
| 2 | ANPR Camera for Number Plate Capture with IR illuminator (1 lane per camera) | <p>ANPR Camera should be Mega pixel type IP cameras, (min 2 MP camera per lane) True day & night camera Colour images for day and night</p> <p>CMOS Global shutter sensor</p> <p>Minimum Vertical resolution : 1080 lines</p> <p>Exposure time maximum 1milli second, with motorized zoom lens.</p> |
| 3 | Infrared Flash for Illumination | <p>Infrared flash for image capture at night Synchronised flash with global shutter of camera Wavelength: 850 nm,</p> <p>Flash power sufficient to capture vehicle images also at night.</p> <p>Capability to capture retro reflective and non-reflective number plates.</p> <p>High cycle frequency with the capability to function in bursts of at least 4 consecutive flashes at intervals<200msec</p> |
| 4 | Violation images | <p>For each red-light violation one lane – ANPR image of vehicle With clear number plate images and 2 evidence images and a five second video clip of the violation should be captured.(video on demand from site)</p> |
| 5 | Vehicle image Capture | <p>Along with number plate, high quality image of vehicle, also to be captured at Day and Night conditions for all vehicles. Evidence camera should capture wide angle shot of full road and surroundings with minimum two images of vehicle moving on the road.</p> |
| 6 | All vehicle - ANPR capture Mode | <p>Captures all vehicles passing through the installed location. All vehicle images and numbers are kept in database for real time alerts / search for crime analysis. Vehicle images should be captured even if the number plate is not automatically detected, (example: damaged / unreadable number plates or even absence of number plates)</p> |
| 7 | ANPR accuracy | <p>High ANPR accuracy > 90% all around capability for standard Or near standard number plates with maximum 1 character error.</p> |

| | | |
|----|---|--|
| 8 | Vehicle detection rate (percentage of vehicles captured) | High vehicle detection rate: greater than 90% of all vehicles captured under all conditions, irrespective of number plate quality, in free flow traffic conditions. |
| 9 | Rear side capture | Should support rear-side capture |
| 10 | Classification | Should be possible to classify 2 wheeler, Auto, Car, Bus etc. |
| 11 | Lightning arrester | As per BIS standard IS 2309 of 1989 |
| 12 | Road side processing hardware and software, storage, network switch | Road side Embedded hardware, network switch etc. Local storage with 256GB or more storage site. All industrial grade hardware should be provided. |
| 13 | RLVD Configuration | All approaches to the junction, 1-3 lanes per approach |
| 14 | Power supply | Mains power with 2 hour backup with lightning, under/over voltage protection etc. |
| 15 | Health Monitoring and Control. (from control room) | Temperature, battery status, Power supply working status, Camera status. Remote control of system. The Health Monitoring Data should be transmitted to the centralised backend system. Health monitoring information and alerts should be displayed in the control room. |
| 16 | Field Enclosure | Pole mounted outdoor type, with rugged, with Rain canopy etc. All connectors, cables etc. Should be of industrial grade and any hardware should be easily replaceable. |
| 17 | Operating environment for all field equipment | 0-55 degree Celsius, up to 95% Relative Humidity. IP 65 rating. |
| 18 | Data encryption between field equipment and control centre | Advanced Encryption Standard (AES) |

QTY of RLVD: 3 ARM 10 no's and 4 ARM 20 nos

6.3.3 MINIMUM TECHNICAL SPECIFICATIONS FOR HAVD

(Higher & better specifications are preferred)

Field Hardware Components

| Sl. No. | Category | Specification |
|---------|---|---|
| 1 | ANPR Camera for Licence Plate Capture with IR illuminator(2 Lanes/camera) | <p>ANPR Camera should be Megapixel type IP cameras, Minimum 2 Mega pixel camera per system, True day & night camera</p> <ul style="list-style-type: none"> • Colour images for day, monochrome images for night • CMOS Global shutter sensor • Minimum Vertical resolution : 5 pixels per character on number plate, • Exposure time maximum 1 millisecond , with motorized zoom lens.(optional) • Video compression: H.264 /JPEG • Video resolution: 2 megapixels • Minimum illumination: Colour: 0.5 lux, B/W: 0.1lux • Signal/Noise ratio: $\geq 50\text{Db}$ • Supported protocols: standard protocols • Certification: EN/IEC/FCC/CE (anyone) |
| 2 | Infrared Flash for Illumination | <p>Infrared flash for image capture at night Synchronised flash with global shutter of camera Wavelength:850nm, Flash power sufficient to capture vehicle images also at night. Capability to capture retro reflective and non-reflective number plates. High cycle frequency with the capability to function in bursts of atleast 4 consecutive flashes at intervals<200msec</p> |
| 3 | Violation Images | Min2imagesperviolationshouldbecaptured. |
| 4 | Vehicle Image capture | It should be possible to capture clear images of the Vehicle and the individual, with the vehicle number, both during day and night |
| 5 | ANPR accuracy | High ANPR accuracy > 90% all around capability for standard or near standard number plates with maximum 1 character error. |
| 6 | Lightning arrester | As per BIS standard IS 2309 of 1989 |
| 7 | Road side processing hardware and software, storage, network switch | Roadside Embedded hardware, network switch etc. Local storage with 64 GB or more storage at site. All industrial grade hardware should be provided. |
| 8 | HAVD Configuration | 1-3 lanes per location in a single direction |

| | | |
|----|--|--|
| 9 | Power supply | Mains power with 2 hour backup with lightning, under/over voltage protection etc. |
| 10 | Health Monitoring and control. (from control room), | Temperature, battery status, Power supply working status, vibration sensor (Anti tamper with siren) status, Camera status. Remote control of system. The Health Monitoring Data Should be transmitted to the centralized backend system. Health monitoring information and alerts should be displayed in the control room. |
| 11 | Field Enclosure | Pole mounted outdoor type, with rugged, with Rain canopy etc. All connectors, cables etc. Should be of industrial grade and any hardware should be easily replaceable. |
| 12 | Operating environment for all field equipment | 0-55 degree Celsius, up to 95% Relative Humidity. IP 65 rating. |
| 13 | Data encryption between field equipment and Control centre | Advanced Encryption Standard (AES) |

6.3.4 MINIMUM TECHNICAL SPECIFICATIONS FOR MOBILE ENFORCEMENT SYSTEM

| | | |
|----------|----------------------|---|
| 1 | Type of Enforcement | Mobile SVDS systems can be located randomly on day to day basis and hence over all better enforcement, revenue generation along with overall accident reduction on highways. |
| 2 | Radar | 3D radar based automatic capture of violations and recording. Maximum speed of vehicle to be detected 200 KMPH. Speed accuracy min 97%. Violating vehicles should be marked on image for identification |
| 3 | Camera | Min 2 Mega pixel global shutter camera. With IR flash illumination for night |
| 4 | Lane coverage | Min. 2 lane coverage. |
| 5 | Mode of connectivity | Violation data should be downloaded to control room server Via 4G or suitable means in offline mode. |
| 6 | Power | Vehicle mount system powered by Battery for min 10 hours of operation. |
| 7 | Mode of operation | Vehicle will be parked on road side of high ways. Vehicle will be Mahindra TUV 300 basic AC or as suggested by KP |

6.3.5 MINIMUM TECHNICAL SPECIFICATIONS FOR AI CAMERA ENFORCEMENT SYSTEM

| | | |
|----------|---------------------|--|
| 1 | Purpose | Improving Traffic compliance in towns & cities, along with better revenue generation |
| 2 | Type of Enforcement | All AI /helmet violation detection cameras should be ANPR capable to generate a valid challan. Bidder can use one or more cameras for this purpose.(challan should have violation image & readable number plate) Violation types are Seat belt violations, Triple riding ,Illegal parking on road. ,Mobile phone usage ,Helmet less violations |
| 3 | Specifications | Camera should be 2 Mega pixel minimum type ANPR cameras, colour or monochrome, wide angle varifocal length, to cover min 2 lanes. |
| 4 | Illumination | Infrared illumination for approx. 15-25 meters area coverage at detection point, multiple lanes. |

| | | |
|----------|----------------------|--|
| 5 | Technology | Deep learning – AI based vehicle detection for day & night in local site. Transmits vehicle images only to control room. |
| 6 | Working methodology | Road side Embedded hardware, with GPU for deep learning to reduce network bandwidth. UPS for 2 hours back up, under voltage / over voltage protection |
| 7 | Road side equipments | Pole mounted outdoor type, with rugged, with Rain canopy etc. All connectors, cables etc. Should be of industrial grade and any hardware should be easily replaceable. Connectivity 4G / OFC Solar powered in case mains power not available Anti-tamper with siren should be part of systems |

6.3.6 MINIMUM TECHNICAL SPECIFICATIONS FOR ITS SUB CONSULTANT

The Bidder(s) should engage a sub-consultant firm registered in India with traffic engineering and ITS design expertise or should have the expertise in installing Traffic Lights, SVDs, RLVDs Cameras at more than 250 locations. The role of the sub-consultant is to carry out a preliminary design and a detailed design of the ITES before implementation. The preliminary design shall determine site location selection such that the safety benefits of the system is maximized. The sites should be selected using the traffic levels, accident black-spot data and other relevant datasets available with the Kerala Government, supported by a site visit to the chosen locations. The output of the detailed design should include site drawings based on which the successful bidder shall install the system. The site design should take into consideration local parameters such as availability of power and communication network, availability of road space for safe citing of ITES components without disrupting vehicle or pedestrian movements and ease of on-site maintenance activities during the lifetime of the system.

| Sl. No. | Category | Specification |
|----------------|----------------------|--|
| 1 | Technical Consultant | <p>The sub-consultant chosen by the Bidder(s) should satisfy at least four of the technical qualification criteria given below:</p> <p>a. The sub-consultant should have carried out atleast one road safety audit project in India.</p> <p>b. The sub-consultant should have carried out detailed ITS Design for five highways.</p> <p>c. The sub-consultant should have carried out detailed ITS Design for arterial roads in at least one city/urban area.</p> <p>d. The sub-consultant should have carried out Project</p> |

| | | |
|--|--|--|
| | | Management Consultancy (PMC) or implemented at least one Speed-limit Violation Detection System (SVDS) or Red-light Violation Detection System (RLVD) project, or should be a license holder |
| | | of an SVDS or RLVD technology developed by a reputed agency in India. |
| | | e. The sub-consultant's team shall be led by a technical expert who has a post graduate degree in Transportation Engineering with at least ten years of industry experience and should have |
| | | lead atleast two ITS design projects. |
| | | Also see exemption as per section 6.3.6, Bidder experience mentioned |

6.3.7 SOFTWARE BOM for Control ROOM

| Sl. No. | Item Description | Unit | Qty |
|---------|--|------|--------------------|
| 1 | Violation download server software | Pack | As per requirement |
| 2 | Payment management server software | Pack | -do-_____ |
| 3 | ANPR software | Pack | -do-_____ |
| 4 | Fine collection centre client software | Pack | -do-_____ |
| 5 | Charge memo preparation software (server & Client) | Pack | -do-_____ |
| 6 | Database suite | Pack | -do-_____ |
| 7 | All Vehicle ANPR Management Software | Pack | -do-_____ |
| 8 | HR Management Software | Pack | -do-_____ |
| 9 | MVD & Police Enforcement data merging Software | Pack | -do-_____ |
| 10 | Enforcement data pooling Software | Pack | -do-_____ |

Some violations processing can be carried out at the server side

6.3.8. E-CHALLAN SOFTWARE FUNCTIONAL REQUIREMENTS

| Sl. No. | Category | Specification |
|---------|-------------------------------|--|
| 1 | Violation memo Format | <p>Over speed violation detection system: There should be a minimum of Three images per Violation memo - one with Vehicle rear side/front with number plate visible clearly and Two images of vehicle moving on the Road. Also should have information like date, time of offence, location ID, Violation ID, speed, allowed speed , Motor vehicle applicable Law/ Act, fine amount, due dates, etc.</p> <p>Red-light violation detection system: There should be a minimum of two images per violation memo - one perspective view and one close-up image with number plate clearly visible. Also should have information like date, time of offence, location ID, Violation ID, speed, allowed speed , Motor vehicle applicable Law/ Act, fine amount, due dates, etc.</p> <p>Helmet absence violation or other violation detection system: There should be a minimum of one image per violation memo -one close-up image with the rider, passenger and the number plate clearly visible. Also should have information like date, time of offence, location ID, Violation ID, Motor vehicle applicable Law/ Act, fine amount, due dates, etc.</p> |
| 2 | Violation processing Software | <p>Automatic download of captured violations by server software from multiple locations should be possible. There should be Automatic Number Plate recognition by System Software while downloading</p> <p>Configure the capture stations – It should be possible to perform Machine ID Settings / Sensor / Flash / Camera Parameters / Date & Time / Connection Parameters / Access Settings, etc. through system software running on the server</p> <p>User should be able to use any standard web-browser to access violations downloaded by the server software</p> <p>Options for penalizing and dispatching violations should be available. Also, it should be possible for the Megapixel image to be zoomed/ processed by user for creating Challan</p> <p>It should be possible for the Challan format to be modified according to the project/ system requirements</p> <p>User Management – It should be possible to create</p> |

| | | |
|---|---------------|--|
| | | Multiple user ID for using the Challan Processing Software and set the privileges. |
| | | It should be possible to get vehicle/owner information from State Motor Vehicle database and embed it into the Challan |
| | | Challan data information should be customizable. Settings should be provided for changing Fine Amount, Header, Footer, Logo, Challan Printing Office etc., for Administrator privilege |
| | | Various reports like Search Vehicle, User's Report, Violation Analysis Report, Dispatch Report, System Events Report etc., should be available |
| 3 | Data Security | Should have Data security through Encryption |

6.3.9. PAYMENT MANAGEMENT SOFTWARE FUNCTIONAL REQUIREMENTS

6.3.10.

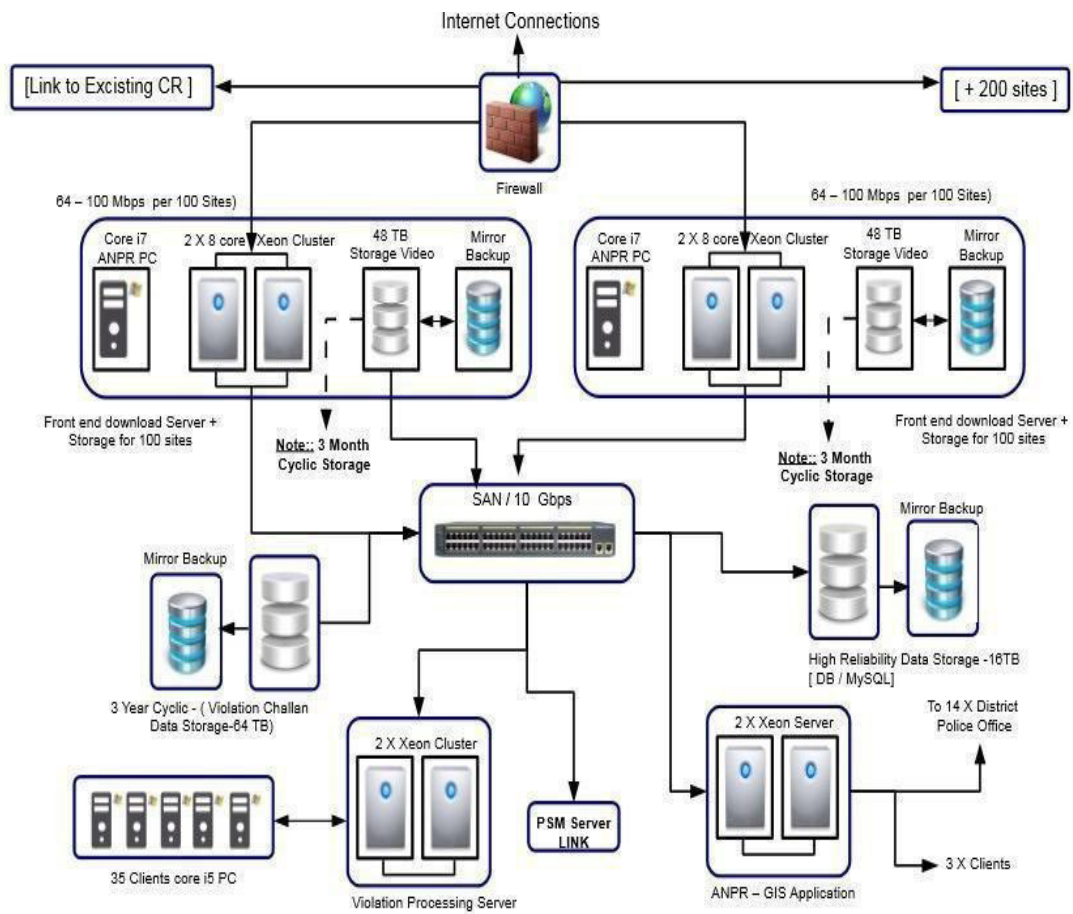
| Sl. No. | Category | Specification |
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| 1 | Payment Management Software | Web based software application, should include both Cash Counter and Online Payment modes |
| 2 | General Requirement: | Should be a highly secured multi-level Authorization and Authentication system |
| | | Should have Data security through Encryption |
| | | Should use Secured Socket Layer for financial data transfer through internet |
| 3 | Cash collection management software: | It should be possible for the Administrator to create user-name and password users with different privileges, and assign type of privileges as required |
| | | It should be possible for the users to manage the system from their terminals using their user-name and password, according to the powers assigned to them |
| | | It should be possible for the Administrator to back up the data at a particular interval |
| | | It should be possible for the Administrator to get report on cash collected on daily basis for any cash collection location or for all locations |
| | | Data received from challan processing software should include, (XML File). <ol style="list-style-type: none"> 1. Unique challan Id. 2. Vehicle registration number. 3. Name of the registered owner. 4. Address of the registered owner. |

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| | | <ol style="list-style-type: none"> 5. Location of offence. 6. Offence type and its nature. 7. Date and time of detection. 8. MVD Rules. 9. Fine Amount. 10. Details regarding violation. |
| | | It should be possible for the Administrator to get reports regarding treasury remittance |
| | | It should be possible for the Administrator to get the Statutory reports which are to be submitted to the government.(Details after further study) |
| | | It should be possible for the Administrator to get MIS Reports for periodic reviews and for statistical purposes. (Details after further study) |
| | | It should be possible for the Administrator to generate reports of total charge memos received, paid / non – paid cases and send reminders for payment non – collected cases. |
| | | This software should also print receipt for each collection with details as below, Unique Challan Id, Name of the registered user, Fine Amount, Date of Payment, Mode of Payment, Collecting Officer Id, RT Office Id, Counter No, etc. |
| | | The software should have a facility send reminders (with increased fine) if the payment is not received by the due date |
| | | If the payments are not received after response time mentioned in the final reminder, the offence cases should be forwarded to the court for legal procedures by the authorised person |
| | | <p>On closing the counter, at the end of the day a consolidated list should be generated. The list should contain:</p> <ol style="list-style-type: none"> 1. Fine Amount (Daily Summary) 2. Date and time. 3. Counter number. 4. Officer Id. 5. RT Office Id |

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| | | It should be possible for the consolidated list to be verified by a higher officer or the authorized person— from his/her terminal |
| | | The cash (Consolidated amount for a day) collected should be remitted in the bank / treasury and the corresponding "Challan Id" provided by the treasury should be entered into the PSM by an authorised person thereby closing the account |
| 4 | Online Payment Mode | <p>A user (offender) should be able to access the page of online payment by simply clicking link in a web Page of the govt. department or browsing with web address of the online payment system</p> <p>After entering the Vehicle Registration No. and then clicking on a submit button the user should get a list of all Charge memos pending for payment</p> <p>He/she should be able to verify the details of all charge memos – Date & Location of violation, fine amount, compound fee(if any), Total, etc.</p> <p>He / She can make payment of all or select charge memos</p> <p>After selecting the Charge memos which he/she wishes to pay for and clicking the submit button he/she should get the details of each Charge memos which includes –</p> <ol style="list-style-type: none"> Date &Time, Location of violation, Fine amount, Compound fee(if any), Total, Grand total of all select charge memos etc. <p>On clicking the proceed to payment button another screen should display where he/she would be able to make payment using any one of the following mode of online payments</p> <ol style="list-style-type: none"> Credit card Debit card Net banking <p>The online payment should be done through a third party Payment Gateway (PG). The PG would necessary underground work to fulfill the online payment</p> <p>PG would return notifications –whether a transaction had been a success or failure. The DB of PMS should store this notification</p> <p>Online payment should be done as per the stipulated</p> |

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| | | guidelines of RBI |
| | | Money should reach the bank account of govt. department within T+ 3 days |
| | | In the case of failed transactions money should be returned to the offender (customer) account within 4 days |
| | | The system should use highly secured data transfer through internet- with SSL technology |
| | | Payment could involve the participation of almost all nationalised and scheduled banks (more than 60 nos) |
| | | It should be possible for the Administrator to generate Reports of cash collection of Online payment between 2 given dates |
| | | It should be possible for the Administrator to generate reports of refunded cases (failed) and settled cases (succeeded) |
| 5 | Bank Reconciliation | At the end of each day the concerned officer in the bank generates a statement of transactions of the account in which Online payment and Cash Counter payment are remitted |
| | | He/she sends this statement as email attachment to a specified email id of the department |
| | | PMS should periodically check this mail id and on finding the mail it should open it, read contents and store it in its Database |
| | | PMS should make a comparison of records already available in the Database regarding each remittance and should notify discrepancy, if any |

6.4. System architecture



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| | Should provide an highly reliable and high performance mid-plane/back-plane design in the blade enclosure. Should provide detailed technical information. |
| | Should be able to accommodate the blade servers of specifications mentioned in the proposed blade enclosures. The proposals must offer the most dense packaging possible for the blade servers in the enclosure and maximum headroom for future expansion in the offered enclosures. |
| | Support simultaneous remote access for different servers in the enclosure. |
| INTERCONNECTIVITY | Should support simultaneous housing of FCoE, Ethernet, FC, SAS and infiniband interconnect fabrics offering Hot Pluggable & Redundancy as a feature |
| BLADE SERVER INTERCONNECT TO LAN/NETWORK | The enclosure should support network switches with atleast 2 giga bit uplink ports, up-linkable to the data center switch. |
| BLADE SERVER INTERCONNECT TO FIBER CHANNEL SAN | The enclosure should support Fibre Channel SAN switches with at least 8 Gb auto-negotiating FC uplinks and also at least 8Gb auto-negotiating downlinks to all server bays. |
| POWER SUPPLY | The enclosure should be populated fully with power supplies of the highest capacity available with the vendor. Power supplies should support N+N as well as N+1 redundancy configuration, where N is greater than 1. Should offer a single phase power subsystem enabled with technologies for lower power consumption and offering high energy efficiency levels. Vendors should provide documents certifying the claims. |
| COOLING | Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics |
| WARRANTY | 10 years comprehensive warranty |
| SYSTEM SOFTWARE | Management/controlling software have to be from the OEM. |
| REMOTE MANAGEMENT | Must provide a remote management functionality to operate the server in both in-band and out-of-band. Must be part of the server without the need to install any additional hardware or software. |

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| | Must have a real time Virtual KVM functionality and be able to perform a remote Power sequence. Must provide both Java & Java-free browsing options. |
| | Must have the ability to map the remote media to the server and ability to transfer files from the user's desktop/laptop folders to the remote server with only the network connectivity. |
| | Must have the ability to capture the video sequence of the last failure and the boot sequence and also playback the video capture or equivalent technology. |
| | Must have the ability for multiple administrators across remote locations to collaborate on the remote session in a server with multiple sessions even in server powered OFF mode. |
| POWER MANAGEMENT | Must be able to show the actual power usage and actual thermal measurement data of the servers |
| COMPLIANCE | Vendors must submit supporting documents stating RoHS compliance. |

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| BLADE SERVER -. | Description of Requirement-QTY-12 nos |
| CPU | One or two numbers of latest generation Intel 8/10/12/14/18 Core E5-2600v3 processor |
| CPU L3 CACHE MEMORY | 45MB (1x45MB) L3 cache(MAX)-10MB (1x10MB)L3 cache (MIN) depending upon processor model |
| MOTHERBOARD | Intel® C610 Series Chip-set |
| MEMORY | 32GB DIMMS scalable to atleast upto 2TB,using DDR4Load Reduced DIMM(LRDIMM) memory modules. Should be capable of identifying and reporting whether genuine OEM memory is installed for system reliability. Each LRDIMM should work at 2133 MHz, should work at 2400MT/s, for v4 processors |
| MEMORY PROTECTION | Advanced ECC with multi-bit error protection and memory online spare mode |
| HARD DISK DRIVE WITH CARRIER | hot plug SFF SAS/SSD/SATA drives. The drive should have intuitive icon based display along with "DO NOT REMOVE" caution indicator that gets activated automatically in order to avoid data loss/downtime due to wrong drive removal. |

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| STORAGE CONTROLLER | Integrated PCIe 3.0 based 12G SAS Raid Controller with RAID 0, 1 WITH 1GB of Flash backed write cache on board. |
| NETWORKING FEATURES | Flexibility to choose one of below embedded ports: 1. Dual Port 20 GbE Converged Network Adaptor which supports partitioning up to 3* Ethernet and 1* FC/iSCSI HBA ports per 20GBPS port 2. Dual port 10GbE Converged Network Adaptor which supports partitioning up to 3* Ethernet and 1* FC/iSCSI HBA ports per 10GBPS port 2. Dual port 10GBPS network port which supports partitioning up to 4* Ethernet ports per 10 Gbps port 3. Dual port 10GBPS Ethernet ports |
| INTERFACES | Minimum of 1*internal USB 3.0 port and 1* internal SDHC card slot |
| BLADE SERVER CONNECTIVITY TO SAN | Should be capable of supporting 16 Gbps Dual port Fiber Channel HBA internal to the Server Blade. |
| BUS SLOTS | Minimum of 2Nos of 3.0 PCIe x16 based mezzanine slots supporting Converged Ethernet, Ethernet, FC adapters, SAS and IB adaptors |
| GRAPHICS | Integrated G200eh video controller |
| INDUSTRY STANDARD COMPLIANCE | ACPI 2.0 Microsoft® Logo certifications USB 3.0 Support IPMI 2.0 Secure Digital 2.0 TPM 1.2 Support IEEE (specific IEEE standards depending on Ethernet adapter card(s) installed) Advanced Encryption Standard (AES) Triple Data Encryption Standard (3DES) SNMP SSL 2.0 DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP) Active Directory v1.0 PCIe 3.0 ASHRAE A3 |

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| EMBEDDED SYSTEM MANAGEMENT | <p>Should support monitoring ongoing management, service alerting, reporting and remote management with embedded Gigabit out of band management port</p> <p>Server should support configuring and booting securely with industry standard Unified Extensible Firmware</p> <p>System should support Restful API integration</p> <p>System management should support provisioning servers by discovering and deploying 1 to few servers with Intelligent Provisioning</p> <p>System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support</p> |
| SECURITY | <p>Power-on password Administrator's password Keyboard password (Quick Lock)</p> <p>Out of band remote management Chip-set with: SSL encryption Secure Shell version 2</p> <p>Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface</p> <p>AES and RC4 encryption of video External USB port enable/disable Network server mode</p> <p>Serial interface control</p> <p>TPM (Trusted Platform Module) 1.2 option Advanced Encryption Standard(AES)</p> <p>Intel® Advanced Encryption Standard-New Instructions (AES-NI)</p> <p>FIPS 140-2 Level-2 certification pending</p> |
| OS SUPPORT | <p>Microsoft Windows Server</p> <p>Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Canonical Ubuntu</p> <p>Oracle Solaris VMware</p> <p>Citrix Xen Server</p> |
| SECURE ENCRYPTION | <p>System should support Encryption of the data on both the internal storage and cache module of the array controllers using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment.</p> |
| WARRANTY | 10 year 24x7 comprehensive warranty |
| PROVISIONING | <p>Essential tools, drivers, agents to set-up, deploy and maintain (not the OS) the server should be embedded inside the server. There should be a built -in update manager that can update these tools online.</p> |

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| REMOTE MANAGEMENT | System remote management should support browser based Graphical Remote Console along with Virtual Power button, Remote boot using USB / CD/ DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media / image/folder; It should support server power capping and historical reporting and should have support for multi-factor authentication. |
| | Dedicated remote management port should be provided and it should be able to download the firmware from the website directly or from internal system. Server should support automated firmware update. |
| | Server should support agentless management using the out-of- band remote management port. Remote management port should have 4GB NAND flash with 1 GB available for user access. NAND flash should be used for keeping system logs and downloading firmware from HP website or internal repository |
| | The server should support Active Health System which monitors and records continuously every hardware change, every configuration change, temperature and voltage variations, and alerts changes in the server hardware and system configuration without impacting server performance. This assists in diagnosing problems and delivering rapid resolution when system failures occur. |
| | Applications to access the server remotely using popular handheld devices based on Android or Apple iOS should be available. |
| | Should support managing multiple servers as one via Group Power Control Group Power Capping Group Firmware Update Group Configuration Group Virtual Media Group Licence Activation |
| | Should support remote console sharing upto 6 users simultaneously during pre-OS and OS runtime operation, Console Replay that captures and stores and supports replay of the console video during a server's last major fault or boot sequence, Microsoft Terminal Services Integration, 128bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality. Should provide support for Java free graphical remote console. |

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| SERVER MANAGEMENT | Software should support dashboard view to quickly scan the managed resources to assess the overall health of the data centre. It should provide an at-a-glance visual health summary of the resources user is authorized to view. |
| | The Dashboard minimum should display a health summary of the following: <ul style="list-style-type: none"> • Server Profiles • Server Hardware • Enclosures • Logical Interconnects • Appliance alerts |
| | The Systems Management software should provide Role-based security |
| | Software should support search for resource-specific information such as specific instances of resource names, serial numbers, WWNs, IP and MAC addresses to help manage infrastructure better |
| | Management software should support integration with popular virtualization platform management software like v Centre, SCVMM and Red Hat RHEV |
| | Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD. |
| | Should provide an online portal that can be accessible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contract and status. The Portal should also provide a Personalised dashboard to monitor device health, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be available on premise (at our location - console based) or off premise (in the cloud). |
| | Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components. |
| | The Server Management Software should be of the same brand as of the server supplier. |
| WARRANTY | 10-year Warranty with NBD replacement |
| STORAGE- HPE/ DELL/IBM/NETAPP or equivalent | Functionality QTY – 48TB -4 nos and 64 TB 1 Nos |

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| OPERATING SYSTEM & CLUSTERING SUPPORT | <ul style="list-style-type: none"> - The storage array should support industry-leading Operating System platforms including: <i>Windows 2012, CHAPEAUX, Firmware and Linux.</i> - Offered Storage Shall support all above operating systems in Clustering. |
| CAPACITY & SCALABILITY | <ul style="list-style-type: none"> - The Storage Array shall be offered with 48TB and 64TB with 48TB and 64TB usable Capacity using 60 drives with RAID 1+0/ RAID6 - For enamour power saving, Storage enamour shall be supplied with 2.5" Small form factor SFF drives however storage subsystem shall also support LFF drives with the addition of required disk enclosures. - Storage shall be scalable to minimum of 180 number of drives or greater than 160TB using 900GB SFF SAS drives. |
| FRONT-END PORTS | <ul style="list-style-type: none"> - Offered Storage system shall be supplied with minimum of Dual 16GBps FC ports and Dual 10Gbps ISCSI ports per controller. - Offered storage shall have flexibility to use all above ports either as FC or ISCSI by replacing the requisite SFP. Vendors shall provide the additional SFP accordingly. In case, vendor doesn't support this feature, then every controller shall be populated upfront with 4 x 16 Gbps FC ports and 4 x 10 Gbps ISCSI ports. |
| BACK-END | <ul style="list-style-type: none"> - Offered Storage subsystem back-end engine shall be running on latest SAS (6Gbps) loop speed. |
| ARCHITECTURE | <ul style="list-style-type: none"> - The storage array should support dual, redundant, hot-pluggable, active-active array controllers for high performance and reliability. |
| NO SINGLE POINT OF FAILURE | <ul style="list-style-type: none"> - Offered Storage Array shall be configurable in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc. |
| DISK DRIVE SUPPORT | <ul style="list-style-type: none"> - For SFF drives, Offered Storage Array shall support minimum 300/600/900/1200 GB hot-pluggable Enterprise SFF SAS hard drives, 400/800/1600/3200 GB SSD along with SAS MDL 1TB / 2TB drives. 2. For LFF drives, offered Storage Array shall support minimum of 4TB / 6TB / 8TB SAS MDL drives. 3. Offered storage array shall also have support for self-encrypted SAS and SAS MDL drives. |

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| CACHE | <ul style="list-style-type: none"> - Offered Storage Array shall be given with Minimum of 4GB cache per controller in a single unit after removing the operating system overhead. - Cache shall be backed up in case of power failure for indefinite time either using batteries or capacitors or any other equivalent technology. - Offered Storage shall also have optional support for Flash cache using SSD / Flash drives. Offered storage shall support at-least 2TB Flash Cache. - Offered storage shall have at-least 2GB additional cache per controller for Metadata and System OS. Vendor shall clearly provide the document about the overall cache requirement for Metadata and System OS |
| RAID SUPPORT | <ul style="list-style-type: none"> - Offered Storage Sub system shall support Raid0,1,1+0 and Raid 6 with Dual Parity Protection |
| POINT IN TIME AND CLONE COPY | <ul style="list-style-type: none"> - Offered Storage array shall be configured with array based Snapshot and clone armour-plate and shall be configured for minimum of 64 snapshot licenses. - Offered Storage array shall support at-least 512 point in time copies (Snapshots). |
| REPLICATION | <ul style="list-style-type: none"> - Offered storage subsystem shall support storage based replication to DR location. |
| VIRTUALIZATION AND THIN PROVISIONING | <ul style="list-style-type: none"> - Offered storage shall be offered and configured with virtualization capability so that a given volume can be striped across all spindles of given drive type. - Offered Storage shall be offered and configured with Thin Provisioning capability. |
| DATA TIERING | <ul style="list-style-type: none"> - Offered Storage shall also have optional support for Sub- Lt. Data tiring in real time fashion across different type of drives within a given pool like SSD, SAS, NASAS etc. |
| GLOBAL AND DEDICATED HOT SPARE | <ul style="list-style-type: none"> - Offered Storage Array shall support Global hot Spare for offered Disk drives. - At least 2 Global hot spare drive shall be configured for every 30drives. - Storage subsystem shall also have the flexibility to assign dedicated spare for raid sets. |
| LOGICAL VOLUME & PERFORMANCE | <ul style="list-style-type: none"> - Storage Subsystem shall support minimum of 512 Logical Units. Storage Array shall also support creation of more than 100TB volume at controller level. - Offered Storage shall have inbuilt performance management software. Configuration Dashboard shall show overall IOPS and MB/sec performance |
| LOAD BALANCING & MUFTI-PATH | <ul style="list-style-type: none"> - Multi-path and load balancing software shall be provided, if vendor does not support MPIO armour-plate of Operating system. |

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| Warranty | - 10 year Warranty with 24X7,NBD replacement support |
| TAPE DRIVE AND BACKUP SOFTWARE- HPE/ | Description of Requirement- QTY – 1 nos |
| DRIVE TECHNOLOGY SUPPORTED | <ul style="list-style-type: none"> - LTO-8 - LTO-7 |
| MAXIMUM NUMBER OF DRIVES | - 2 |
| MAXIMUM CAPACITY | -720 TB(LTO-8,24 slots) |
| MAXIMUM DATA TRANSFER | -2.16 TB/er (2 LTO-8 drives) |
| DRIVE INTERFACE | - 8 B Native Fibre Channel 6 B/sec SAS |
| FEATURES | <ul style="list-style-type: none"> - It should have Exceptional storage density: 720 TB, 1.44 PB with (2.5:1 compression) using LTO-8 tape cartridges. - Should be Easy-to-use web-based remote management - It should have Integrated bar code reader - It should have Tool-free tape drive upgrades - At should have Leverage tape drives - It should have Customer upgradeable redundant power supply - It should have Multiple interface choices available (FC or SAS) - It should have Removable magazines with user-configurable mail slots - It should be Easy-to-enable AES 256-bit embedded hardware encryption with compression - It should have Extensive OS and software compatibility testing - It should be Proactively monitor utilization, operational performance, and overall life and health of the drives and media with Tape Assure Advanced. |
| SUPPORT AND WARRANTY | <ul style="list-style-type: none"> - Provides end-to-end management of your backup integration process. - Professional backup and recovery planning that aligns with customer's business needs and implementation that reduces project execution time and risk to the storage environment. |
| DATA RATE MATCHING | <ul style="list-style-type: none"> - It should optimise performance and maximise overall efficiency, allowing the drive to respond immediately to any data speed changes from the host. - It should minimise rewinding and repositioning of the tape, significantly reducing physical wear and increasing reliability. - It should minimise the power requirements for the drive by reducing the number of repositions |

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| RELIABILITY | <ul style="list-style-type: none"> - With a rating of 2,000,000 robot load/unload cycles,the Tape Libraries should provide necessary high reliability for today's demanding environment. To improve reliability and longevity, Ultrium products feature Data Rate Matching(DRM).This allows the tape drive to dynamically and continuously adjust the speed of the drive, to match the speed of the host or network. This increases performance, reduces mechanical wear on the tape drive and extends tape life. |
| BACKUP | <ul style="list-style-type: none"> - It should be Fast and reliable backup and recovery - It should meet KP's data protection expectations by reducing the time it takes to back up and recover critical information, apps and servers - Advanced integration with VMware and Hyper-V. - It should minimise backup windows, decrease network traffic and reduce disk space required for storing backup data. - It should also reduces the total cost of ownership (TCO) with comprehensive de-dupe to cloud that can save storage and infrastructure cost. - It should easily integrated with VMware, Microsoft and Linux platforms |

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| DESKTOP- HP/LENOVO/IBM/DELL or equivalent | Description of Requirement- QTY – 35 nos |
| PROCESSOR | - Core i5/i7 |
| RAM | -RAM–8GB,DDR4,2400MHz |
| HARD DRIVE | -Min.320GB 5400 RPM hard drive |
| OPERATING SYSTEM | - Windows8/10 |
| GRAPHICS CARD | - Any with Display Port/HDMI or DVI support |
| MONITOR | -23"widescree LCD with Display Port/HDMI or DVI support |
| WARRANTY | - 10 year warranty |

| CORE SWITCH - | DESCRIPTION OF REQUIREMENT-QTY-2 NOS |
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| I/O PORTS AND SLOTS | <ul style="list-style-type: none"> - The above Switch should be scalable to provide 40G SFP+ uplink. - should support combination of converged ports and SFP+/10GBASE-T. - Should have 1 RJ-45 out-of-band management port. - Shall have USB support to copy switch files to/from an USB flash drive |
| LAYER 3 ROUTING | <ul style="list-style-type: none"> - Should support both Ipv4 and Ipv6 IP addressing and protocol. - RIPv1 and RIPv2 routing - OSPF (Ipv4) and OSPFv3(Ipv6) - Border Gateway Protocol (BGP) and Policy-based routing - Shall include Equal-cost Multipath (ECMP) capability - Multicast routing—PIM Sparse and PIM Dense modes - All Features should support day 1 itself |
| DUAL FLASH IMAGES | <ul style="list-style-type: none"> - Provides independent primary and secondary operating system files for backup while upgrading - Multiple configuration files to allow multiple configuration files to be stored to a flash image |
| RESILIENCY | <ul style="list-style-type: none"> - Hitless patch upgrade. - Ultra fast protocol convergence (<50 ms) with BFD or equivalent. |
| HIGH-PERFORMANCE SWITCHING | <ul style="list-style-type: none"> - Switch need to have non-blocking architecture. |
| REVERSIBLE AIRFLOW | <ul style="list-style-type: none"> - Enhanced for data center hot-cold aisle deployment with reversible airflow—for either front-to-back or back-to- front airflow |
| STACKING | <ul style="list-style-type: none"> - Should support of stacking of switches |
| JUMBO FRAMES | <ul style="list-style-type: none"> - Support With frame sizes of upto 10,000 bytes |
| QUALITY OF SERVICE (QOS) | <ul style="list-style-type: none"> - Quality of service with advanced traffic management capabilities |
| PACKET FILTERING AND REMARKING | <ul style="list-style-type: none"> - Source-port filtering or equivalent feature to allow only specified ports to communicate with each other |
| TRAFFIC PRIORITIZATION | <ul style="list-style-type: none"> - Traffic prioritization based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, DiffServetc |

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| SECURITY | <ul style="list-style-type: none"> - IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port - Media access control (MAC) authentication to provide simple authentication based on a user's MAC address - Web-based authentication to provide a browser-based environment to authenticate clients that do not support the IEEE 802.1Xsupplicant |
| DYNAMIC ARP PROTECTION | <ul style="list-style-type: none"> - Dynamic ARP protection blocking ARP broadcasts from unauthorized hosts |
| POWER SUPPLIES & FAN SLOT | <ul style="list-style-type: none"> - Should have redundant power supply and fan slots-populated on day1 |
| PROCESSOR | <ul style="list-style-type: none"> - Switch should have packet buffer size of 16 MB |
| MAC-BASED VLAN | <ul style="list-style-type: none"> - Should support Mac based VLAN |
| VLAN SUPPORT | <ul style="list-style-type: none"> - Provides support for 4,096 VLANs |
| PERFORMANCE | <ul style="list-style-type: none"> - Support 280K MAC addresses. - Throughput of 1000 Mpps or better. - Routing and Switching capacity of 1400 Gbps or better. - Shall provide Gigabit (1000 Mb) Latency of < 4 μs and 10 Gbps Latency of < 3μs. |
| ENVIRONMENT | <ul style="list-style-type: none"> - Operating temperature 0°C to 45°C - Operating relative humidity 10% to 90%, non-condensing |
| SAFETY & ELECTRICAL CHARACTERISTICS | <ul style="list-style-type: none"> - Shall support IEEE 802.3AZ Energy-efficient Ethernet (EEE) to reduce power consumption - Safety and Emission standards including EN 60950; IEC 60950; VCCI Class A; FCC part 15 Class Should support Open Flow for investment protection and SDN environments. |
| RADIUS/TACACS+ | <ul style="list-style-type: none"> - RADIUS/TACACS+ for switch security access administration. |
| WARRANTY & SOFTWARE UPGRADE | <ul style="list-style-type: none"> - 10 Years warranty with advance replacement and next-business-day delivery - Software upgrades/updates shall be included as part of the warranty. |
| RACK SIZE | <ul style="list-style-type: none"> - Switch must have 19" 1U form factor. |

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| 10G SFP+SINGLE MODE TRANSCEIVERS | QTY-20NOS |
| TRANSMIT POWER | -8.2 to +0.5 |

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| RECEIVE POWER | -14.4 to +0.5 |
| CENTRAL WAVELENGTH (NM) | 1310 |
| FIBRE MODE | SMF |
| TRANSMISSION DISTANCE | 10 km (6.21miles) |

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| 16Gb FC/10GbE 100m SFP+Transceiver. | QTY –16nos |
| TRANSMITTER POWER (DBM)^3 | Maximum-14 Minimum-7.8 |
| RECEIVER POWER (DBM)^3 | Maximum-1 Minimum-11 |
| WAVELENGTH | 840 to 860 nm |
| FIBRE MODE | MMF |
| COMMERCIAL TEMPERATURE RANGE | 0 to 70°C |
| STORAGE TEMPERATURE RANGE | 0 to 85°C |

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| ITEM-24/28 PORT GBE WEB MANAGED L2 ACCESS SWITCH WITH 4 SFP PORTS-HPE/CISCO/JUNIPER | QTY-2NOS |
| MANAGEABILITY | - Switch must have front end console cable. |
| RACK SIZE | - Switch must have 1U form factor. |
| PERFORMANCE | <ul style="list-style-type: none"> - Switch should have packet buffer size of 512 KB. - Support 32K MAC addresses and 4094 VLANs. - Throughput of 40 Mpps or better. - Switching capacity of 55 Gbps or better. - Shall provide Gigabit(100Mb)Latency of < 5 µs and 1GBPS |
| AUTHENTICATION | <ul style="list-style-type: none"> - Should support Authentication Flexibility Like: IEEE802.1X Web based authentication Mac based authentication |
| LAYER 3 SERVICES | <ul style="list-style-type: none"> - Should support Dynamic ARP protection, DHCP protection and Secure FTP. |

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| LAYER 3 ROUTING | - Should support Policy based routing support. |
| ENVIRONMENT | - Operating temperature 0°C to 40°C - Operating relative humidity 10% to 90%, non-condensing |
| WARRANTY | - Lifetime warranty. |

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| 24/28 PORT GBE, L2 POE+ ACCESS SWITCH HAVING 4SFP PORTS- HPE/CISCO/JUNIPER or equivalent | QTY-2NOS |
| MANAGEABILITY | - Switch must have front end console cable. |
| RACK SIZE | - Switch must have 1U form factor. |
| PERFORMANCE | - Switch should have packet buffer size of 512 KB. - Support 32K MAC addresses and 4094 VLANs. - Throughput of 40 Mpps or better. - Switching capacity of 55 Gbps or better. - Shall provide Gigabit (100 Mb) Latency of < 5 µs and 1 Gbps Latency of < 5µs |
| AUTHENTICATION | - Should support Authentication Flexibility Like: IEEE802.1X Web based authentication Mac based authentication |
| LAYER 3 SERVICES | - Should support Dynamic ARP protection, DHCP protection and Secure FTP. |
| LAYER 3 ROUTING | - Should support Policy based routing support. |
| ENVIRONMENT | - Operating temperature 0°C to 40°C - Operating relative humidity 10% to 90%, non-condensing |
| WARRANTY | - Lifetime warranty. |

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| NEXT GENERATION UTM- FIREWALL- CISCO /HPE/ PALO ALTO/JUNIPER/ CHECKPOINT or equivalent | 2 NOS |
| INTERFACES, POWER SUPPLY AND STORAGE | - The appliance shall be supplied with at least 8nos 10/100/1000Gigabit ports. |

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| | <ul style="list-style-type: none"> - Firewall should have local inbuilt storage of minimum 200GB SSD. - Firewall should have minimum 8GB memory. |
| GENERAL FEATURE | <ul style="list-style-type: none"> - 9 Gbps of firewall throughput - 690 Mbps of NGFW1 - 395 Mbps of Threat Prevention - 150,000 connections per second, 64 byte response. - Solution should be an integrated Next Gen Firewall platform which includes firewall, application control, IPS, Anti- Spyware, URL Filtering and Advanced Persistent threat Prevention capabilities in a single appliance, configured in High Availability Mode. - Firewall must have minimum 500 Mbps of real world multi-protocol throughput including firewall, IPS, application visibility, Anti-Bot, Anti-Spyware, URL Filtering and Advanced Persistent threat Prevention features running at the same time. - Network Security Firewall should support "Stateful" policy inspection technology. It should also have application intelligence for commonly used TCP/IP protocols like telnet, ftp etc. - Appliance should have granular visibility with respect to user and group policy. - The proposed solution shall support DNS proxy. - Proposed solution support Multi Link Management and should support minimum two ISPs. - Should provide clear indications that highlight regulations with serious indications of potential breaches with respect to Access Policies, Intrusion, Malwares, BOT, URL, Applications etc. - Required software license for providing above features shall be included in the solution. - It should be able to scan SSL & TLS traffic. |
| VPN | <ul style="list-style-type: none"> - 2.16 Gbps of AES-128 VPN throughput - Firewall should support 3DES/AESIPSEC VPN throughput of at least 300Mbps. - It should support the Firewall and IPSEC VPN as integrated security functions. |

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| ADMINISTRATION, AUTHENTICATION & GENERAL CONFIGURATION | <ul style="list-style-type: none"> - The Firewall should support authentication protocols like Active Directory, LDAP and have support for Firewall passwords token-based products and X.509 digital certificates and integrate with Windows 2012 Active Directory for user authentication. |
| IPS | <ul style="list-style-type: none"> - 1.08 Gbps IPS - The IPS should IPS Engine should support Vulnerability and Exploit signatures, Protocol validation, Anomaly detection, Behaviour-based detection, Multi-element correlation. - IPS should be able to detect and prevent embedded threats with in SSL traffic. - The proposed solution must be able to support DoS protection. |
| WEB CONTENT AND APPLICATION FILTERING | <ul style="list-style-type: none"> - Application control must identify applications, its different categories, URLs, HTTPS inspection, Malware content sites, IP and/or user-based policies. - Solution must have a URL categorisation and URLs filtering database. The solution should have the capabilities to block, permit, allow & log, protocols other than HTTP, HTTPS, FTP, SFTP. - Should scan outbound URL requests and ensure users do not visit websites that are known to distribute malware. |
| SECURITY FEATURE | <ul style="list-style-type: none"> - The solution should also have the scalability to scan & secure SSL encrypted traffic passing through gateway. Should perform inspection to detect & block malicious content downloaded through SSL. - Granularly define exceptions for SSL inspection to protect user privacy and comply with corporate policy. - Solution should have capability to integrate with APT system to detect & Prevent bot outbreaks and APT attacks. - Solution should be able to detect & Prevent the Bot infected machine. - Solution should be able to detect & Prevent Unique communication patterns used by BOTs i.e. Information about Botnet family. - Solution should be able to detect & Prevent attack types i.e., such as spam sending click fraud or self-distribution, |

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| | <p>that are associated with Bots</p> <ul style="list-style-type: none"> - The solution should eliminate threats and remove exploitable content, including active content and embedded objects. - The solution should provide the protection from zero-day attacks, known & unknown attacks. - The solution should support detection & prevention of Cryptors & ransomware and variants (Crypt locker , Crypto Wall etc) through use of static and/or dynamic analysis. - The solution should be able to scan & find for unknown threats in executable, archive files, documents, JAVA and flash like: 7z ,cab, csv, doc, pdf, ppt, pptx, rar, rtf, scr, swf, tar, docx, , jar, xls, , xlsx, zip etc. |
| MANAGEMENT, LOGGING AND REPORTING | <ul style="list-style-type: none"> - Upon malicious files detection, a detailed report should be generated for each one of the malicious files. - Firewall central management reporting, logging and narmour solution must be in dedicated appliance footprint. - Centralized Firewall management should be able to manage all functions specified in Firewall, NIPS, AntiBot specification from central console. - Firewall should be able to provide central logging, Analysis and granular reporting. - Management (Management, reporting, analysis) System Support for role-based administration of firewall. - Solution should support analysis of traffic pattern using graphs and charts |

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| UPS 50 KVA- APC/EMMERSON/HYKON or equivalent | QTY–2nos |
| CAPACITY | 50 kVA/54 kW |
| QTY | 2nos |
| TYPE | True Online Double Conversion DSP Based UPS System connected in Parallel Redundant Load Sharing Configuration |
| PARALLELING | Each UPS unit should have inbuilt Parallel Kit. UPS should be capable of connected in Stand alone Configuration also whenever required |

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| GALVANIC ISOLATION | Inbuilt Isolation Transformer |
| OVERALL EFFICIENCY | > 94% |
| INPUT VOLTAGE | 400 VAC , 3 phase |
| INPUT VOLTAGE RANGE | Half Load 208-466V/Full Load 312-466V |
| RECTIFIER & INVERTER | IGBT Rectifier & IGBT Inverter |
| INPUT CURRENT HARMONICS (THDI) | < 3% at full load (without use of any additional filters) |
| INPUT POWER FACTOR | 0.99 or better at full load |
| INPUT FREQUENCY | 45 Hz to 65 Hz |
| OUTPUT VOLTAGE | 400V,3phase 50Hz. Settable for 380V/400V/415VAC |
| OUTPUT VOLTAGE REGULATION | +/-1% for 100% unbalanced loads |
| RATED POWER FACTOR | 0.9 or better |
| RECOVERY TIME | <=20ms (within one cycle) for 100% load change |
| WAVE FORM | Pure sine wave |
| OUTPUT DISTORTION | <=2% for linear load,<5% for nonlinear load |
| OVERLOAD CAPACITY | 115% for 10minutes, 130% for 1minute |
| BYPASS | Automatic & Manual Bypass switch facility to be provided |
| SWITCHGEARS | Inbuilt Input, Output & Battery Isolators |
| COMMUNICATION SOFTWARE & CONNECTIVITY | SNMP Network monitoring |
| BATTERY TYPE | Sealed Maintenance Free for 30 Minutes for each UPS |
| BATTERY MAKE | Amarraja/Panasonic /Exide or equivalent |
| BATTERY VAH REQUIRED | 54000 per UPS |
| STANDARDS | EN/IEC62040-1,EN/IEC62040-2,EN/IEC 62040-3,IP 20 Enclosure |

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| GENERATOR- KIRLOSKAR/ CUMMINS /MAHINDRA/ CATERPILLAR or equivalent | Description of Requirement-QTY-1 no |
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| GENERATOR KVA RATING | -160KVA with AMF control Panel comprising |
| ENGINE | <ul style="list-style-type: none"> - Kirloskar Mahindra/Cummins/or superior make diesel engine, water cooled, coupled to Kirloskar/KEL/BHEL/Crompton/ Stamford or superior make Alternator and potential free contacts and digital out facility and should have all provision for future DG automation without adding any components in the DG set and complete with control Panel, fuel tank of suitable capacity and battery with leads and anti-vibration pads and residential type silencer. The DG set shall conform to detailed specifications attached with this schedule. - The Engine Alternator supplied should be of ready to use type (RTU), the BHP of engine may be suitably enhanced as per site conditions in order to deliver the minimum required KVA at site, in case of water cooled engine it should be supplied with first filling of coolant and water mixture as per the manufacturer recommendation - The Engine shall be equipped with governor of required accuracy and all standard fittings, flexible pipe, Engine compatible sealed maintenance free battery for starting, fixed between base frame, suitable capacity fuel tank for running the E/A set. Digital type electronic governor is not mandatory for all the ratings. - Connected with steel wire braided fuel pipe, silencer, MS exhaust pipe of suitable size and length as per site requirement covered with two layers of 6mm. - One Layer of 12 mm thick asbestos rope, instrument panel equipped with necessary instruments, directly coupled with alternator of suitable capacity on a suitable length of common base frame, channel fixed on suitable nos. - AVM pads including required length of suitable size. Copper conductor armoured XLPE cable with cable glands and lugs for inter connection between alternator and control panel, providing tools for normal maintenance and all other accessories complete as required and as per detailed |

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| | <p>specifications.</p> <ul style="list-style-type: none"> - Engine shall be reciprocating compression ignition engine as per manufacturer standard design and conforming to IS 10001-1981 & BS 5514. - Engine shall be cold and self-starting type. The starter battery shall have suitable copper connecting lead, sufficient to meet engine starting and control gear requirement as per manufacturer specification. |
| OPERATING CONDITIONS | <ul style="list-style-type: none"> - The engine alternator shall be capable of working at any ambient temperature between 0 Deg C to 50 Deg C with relative humidity upto 95% condition. - The working KVA rating at site condition after accounting for de-rating shall be obtained at 0.8 power factor. - When there is an electrical main supply failure it will be required to work continuously for a period which may even exceed 24 hour at a time. - The set shall be capable of taking 10% overload for a period of one hour during every 12 hours. |
| OUTPUT VOLTAGE FREQUENCY AND WAVE FORM | <ul style="list-style-type: none"> - Nominal output voltage shall be 415V with +1% manual adjustment at all conditions of the load. Frequency shall be 50Hz +3%Hz in output wave form. |
| LUBRICATION | <ul style="list-style-type: none"> - Lubrication shall be positive pressure type lubricating all moving parts. No moving parts shall required lubrication by hand either prior to the starting of the engine or while it is in operation. Temperature and pressure gauge shall be fitted to the lubricating system. |

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| FUEL TANK | <ul style="list-style-type: none"> - Fuel tank shall be drawn out type for easy maintenance provided between base frame or separately installed in case of installation in a canopy. - The tank shall have level indicators marked in litres, filling inlet with removable screen, fuel out let located at minimum of 25mm above the bottom at outer face of canopy, drain plug air vent and necessary piping, hand pump for pumping the fuel into the service tank with necessary pipe or tube shall be provided. - The outlet of the pump shall be provided with 3-meter long reinforced hosepipe. The capacity of the tank is so as to design that there should be a capacity to fill the diesel for minimum of 8 hour continuous operation for DG set up to including 160KVA. |
| FUEL PIPING | <ul style="list-style-type: none"> - Steel wire braided pipe with hydraulically compressed benzo of superior quality shall be provided for fuel piping. |
| SILENCER | <ul style="list-style-type: none"> - Residential silencer with approved make/supplied by the engine manufacturer shall be provided. Silencer shall be supported on both ends and located as per engine manufacturer recommendations. Silencer shall be provided outside the canopy. The exhaust system of the generator must not be positioned to make any mark on the fence, containers or tower. |
| SPEED AND GOVERNING | <ul style="list-style-type: none"> - The engine shall operate on 1500RPM, and be able to meet site conditions with regard to Voltage, Speed, Frequency and regulation equipped with governor of required accuracy. |
| BATTERY CHARGING | <ul style="list-style-type: none"> - The battery charging shall be done through alternator and solid state battery charger. |

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| ACCESSORIES | <ul style="list-style-type: none"> - Heavy duties flywheel. - Coupling with guard. - Fuel Pump suitable for lifting the fuel from fuel tank provided below E/A sets. - Governor. - Pre filters, Fuel Filter - Pre-filter in lift pump/button filter. - Lubricating oil filter. - Residential exhaust silencer. - Electrical Starter motor - Blower fan. - Charging Alternator. - Digital electronic Governor Stainless steel exhaust flexible coupling - Radiator - Coolant inhibitor - Air Cleaner - All accessories included in the standard set like safeties, solenoid valve etc. shall be got from manufactures as a part of equipment. |
| INTEGRATED CONTROL SYSTEM | <ul style="list-style-type: none"> - Microprocessor based generator set monitoring , protection and electronic governing system .The monitoring system should be designed for the genset environment, provides genset protection, engine control and displays genset parameters (both engine & alternator), eliminating use of multiple conventional controls & metering. |
| PHYSICAL CONSTRUCTION | <ul style="list-style-type: none"> - LCD alphanumeric display - Non metallic enclosure - LED display- faults, warnings and generator set status Key switch for OFF/RUNS/START |
| GOVERNOR & SPEED /FREQUENCY REGULATION | <ul style="list-style-type: none"> - Integrated electronic governing (adjustable up to 5%). |
| OPERATOR INTERFACE | <ul style="list-style-type: none"> - Manual stop/start - Remote start/stop - Cyclic cranking - Alpha numeric screen - Alternator trim adjustment - Model specific calibration - Field trim adjustment |

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| AC INSTRUMENTS | <ul style="list-style-type: none"> - 3-phase AC Amps - 3-phase AC volts - KW - VA - Power factor - Frequency |
| MEASUREMENTS/INSTRUMENTATION | <ul style="list-style-type: none"> - Lube oil pressure - Coolant temperature - Engine speed - Hours run - Battery voltage |
| ENGINE PROTECTION | <ul style="list-style-type: none"> - High coolant temperature (Audio-visual alarm & trip) - Low lube oil pressure (Audio-visual alarm & trip) - Fail to crank(trip) - Fail to start(trip) - Over speed(trip) - Low /High battery voltage (Audio-visual alarm) - Low coolant level shutdown(trip) - Engine shuts down due Charge alternator failure (Audio-visual alarm) - Engine shuts down due to lack of fuel (Audio-visual alarm) |
| AC PROTECTION | <ul style="list-style-type: none"> - Over frequency(trip) - Under frequency(warning) - Over voltage(trip) - Over current(trip) - Under voltage(Audio-visual alarm) |
| MISCELLANEOUS | <ul style="list-style-type: none"> - Operating temperature range 0-60°C - Common fault alarm - Common shutdown - Date and time stamps for alarms - Provision to connect nitrated control system to SCADA through digital output especially fuel level oil level indicators etc. |

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| ALTERNATOR | <ul style="list-style-type: none"> - The alternator shall be self excited, self regulated copper wound and totally enclosed for screen protected class- H insulation, designed and constructed to withstand tropical condition. Voltage regulation shall be + 1%. With digital automatic voltage regulator - The winding shall be star connected and neutral shall be brought out to the terminal box for earth with two independent earths. The terminal of the alternator output shall be enclosed in the terminal box. The AC/ DC wiring shall be separated from each other. |
| CONTROL PANEL | <ul style="list-style-type: none"> - Control panel of should be consist of 1 no compatible MCCB having the provisions of short circuit and overload protection mechanism and the relay should be of suitable range and the relay should be of suitable range so as to make the setting of EA set full load current. - Provision of release of Solenoid automatically after 30 seconds while the Engine stops due to any fault. - One electrical/electronic hour counter meter installed inside panel connected from O/P of MCCB. - Sets of CT's for metering of 0.5 VA burden. - 1 SET of L.E.D. type pilot lamps with RED for set running and Green for set with load on. - A set of L.E.D. pilot lamp for phase indication. - 4 strips bus bar of compatible size and suitable length. - Battery Charger: Automatic trickle /boost battery charger of SCR or SMPS type to charge the starting battery of DG set. This charging shall be done through main supply for which a suitable incomer shall be provided in the panel with suitable range of ammeter and voltmeter on the DC side with protective fuses. - The connection of charging alternator & solid state battery charger shall be done as mentioned in detail specification |

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| AMF Panel | - For AMF Panel a manual bypass switch shall be provided on the control panel for total bypass of the AMF system. The changeover from Mains supply to DG set supply should be possible in manual mode with AMF relay totally bypassed and should have ATS facility. A tinned copper earth stud of adequate dimension shall be provided. The control panel shall be complete with necessary internal cables, fuses and accessories, connecting cables to alternator and load as per Electrical Inspectorate standards. |
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| PRINTER | QTY – 3 NO |
| PRINT/COPY SPEED – MONO | 45 ppm +/-2 ppm |
| SIZE | A3,SRA3,12X18,12X47 |
| CONTROL PANEL | 9" COLOUR TOUCH |
| FIRST COPY OUT | LESS THAN 4.1 SEC |
| WARMUP TIME | LESS THAN 25 SEC |
| PROCESSOR | 800 MHZ DUAL CORE |
| RAM | 2GB to be 4GB |
| HDD | 250GB MINIMUM & MAXIMUM 500GB |
| ZOOM | 25% TO 400% |
| TRAYS | 500 SHEETS X 2 TRAY |
| BYPASS TRAY | 150 SHEETS |
| MULTIPLE COPY | 9999 SHEETS |
| RESOLUTION | 1200X1200DPI |
| SUPPORTED OS | WINDOWS, LINUX,MAC |
| INTERFACE | USB, NETWORK, MOBILE PRINT |
| PDL | PCL5E, PCL5C, PCL6 , PS3, XPS |
| DUPLEX | YES |
| DOCUMENT FEEDER | YES |

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| DOCUMENT FEEDER CAPACITY | 100 SHEETS |
| SCAN SPEED | 160 SPM |
| COLOR SCAN | YES |
| SCAN TO USB & PRINT FROM USB | YES |
| PAPER WEIGHT | 52GSM TO 300GSM |
| COLOUR INTERNET FAX | YES |
| TONER | SIMITRI HD |
| POWER CONSUMPTION | 2000 W |

BILL OF QUANTITY CONTROL ROOM HARDWARE**(Total BOQ in annexure2)**

| | NETWORKING | |
|---|--|----|
| 1 | 48/52port10GBASE-T/SFP+/Converged Modular Switch FullLayer3 functionality managed switch having minimum 4 QSFP | 2 |
| 2 | Next generation firewall- UTM | 2 |
| 3 | 24/28 port GbE Web managed L2 access switch having 4 SFP ports/POE | 4 |
| 4 | 16 GbFC/10 GbE 100M SFP+ Transceiver | 16 |
| 5 | 10G SFP+ Single mode transceivers | 20 |
| | SERVER | |
| 6 | Server – Enclosure Solution to house the required number of blade servers in smallest number of enclosures. Industry standard suitable for housing in Standard Server Racks - The blade enclosure should offer atleast 50% more higher server density per square-foot when compared to the dense 1U Rack servers. Should have support for full height and half height blades in the same enclosure, occupying a max of 10U rack height | 1 |
| 7 | Blade Server One or two numbers of latest generation Intel 8/10/12/14/18Core E5-2600v3 processor or One or two numbers of latest generation Intel | 12 |

8/10/12/14/16/18/20/22Core E5-2600v4 processor

| STORAGE | | |
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| 8 | Storage, The storage array should support industry-leading Operating System platforms including: <i>Windows 2012, HPE-UX, VMware and Linux</i> . The Storage Array shall be offered with 48 TB and 64TB usable Capacity using 60 drives with RAID1+0/RAID 6 | 6 |
| TAPE DRIVE , BACKUP SERVER AND SOFTWARE | | |
| 9 | Drive Tape Library | 1 |
| 10 | LTO-7 FC Drive Upgrade Kit | 2 |
| 11 | 5m Multi-mode OM3 LC/LC FC Cable | 4 |
| 12 | LTO-715TB Lbl20 Pk | 1 |
| 13 | Backup software online | 1 |
| DESKTOP COMPUTER | | |
| 14 | Desktop Computer, i5, Monitor, HDD, 8GB RAM | 35 |
| 15 | Desktop Computer, I7, Monitor HDD, 16GB RAM | 4 |
| 16 | Design and documentation, Installation of Server , Storage, Firewall, Router , Desktops, Core switch, Implementation, Data centre build , Civil and electrical work and related documentation, Training , hand-holding and Knowledge transfer, Warranty & Support for 10 years with necessary Manpower support | 1 |

| CONTROL ROOM BUILD UP & INTERIOR | | |
|---|--|---|
| 17 | Interior Design/POP, false ceiling, flooring, entire modular furniture, Manager Cabins, officers cabins, Server room integration, Power wiring, UPS wiring, Generator wiring, Industrial earthing, Networking for entire equipments, Fire and Smoke detector, IPcamera, NVR, Biometric access control and Attendance/Hr management system, Passive cabling, Backbone connectivity with 10G solution, Rack to Rack connectivity with 10G solution, MPO cassettes, comfort AC with automatic change over system, 100MBPS Dual leased line connectivity from different ISPs | 1 |
| PRECISION COOLING SYSTEM AND RACK | | |
| 18 | COOLING SYSTEM :-2 TON COMFORT AC | 1 |
| 19 | 45 U RACK - APW/ RITTAL/VALRACK with high density cable manager, Power distribution Unit and other accessories | |
| UPS | | |
| 20 | 50 KVA UPS with 30- 60 min back up with MCBs and Accessories –Parallel connection with Hot standby mode. | 2 |
| GENERATOR SET | | |
| 21 | 160kVA with auto ON and OFF with AMF panel and other Accessories | 1 |
| HEAVY DUTY PRINTER | | |
| 22 | 50PPM,6GB RAM,Duplex,250 Sheet ADF, OCR, Inbuilt Keyboard, HP Every page, Duplex, 1200X 1200 Print Resolution, 1.2 GHz Processor, 10X100X1000 Ethernet, 320GB HDD, 2X520 Sheets Input tray, 100 Sheets By Pass,8 "Touch Screen, Scan to Email; Save-to-Network Folder; Save-to-USB drive; Send to Share point; Send to FTP; Send to SFTP; Send to LAN Fax; Send to Internet Fax; Local Address Book; SMTP over SSL, Upto 240Ppm Scan | 3 |

7 GENERAL TERMS AND CONDITIONS

7.1 APPLICATION

These general conditions shall apply to the extent that provisions in other parts of the Contract do not supersede them. For interpretation of any clause in the RFP or Contract Agreement, the interpretation of the KP shall be final and binding on the SI.

7.2 RELATIONSHIP BETWEEN PARTIES

Nothing mentioned herein shall be constructed as relationship of master and servant or of principal and agent as between the KP and the Bidder(s). The Bidder(s) subject to this contract for selection has complete charge of personnel, if any, performing the services under the project executed by KP from time to time. The Bidder(s) shall be fully responsible for the services performed by them or on their behalf hereunder. The KP will allocate work/assignment to the Bidder(s).

7.3 STANDARDS OF PERFORMANCE

The Bidder(s) shall give the services and carry out their obligations under the Contract with due diligence, efficiency and economy in accordance with generally accepted professional standards and practices. The Bidder(s) shall always act in respect of any matter relating to this contract as faithful advisor to KP. The Bidder(s) shall abide by all the provisions/acts/rules etc. of Information Technology prevalent in the country as on the date of the requirements and design submissions. The Bidder(s) shall conform to the standards laid down in RFP in totality.

7.4 DELIVERY AND DOCUMENTS

As per the time schedule agreed between parties for specific projects given to the Bidder(s) from time to time, the Bidder(s) shall submit all the deliverables on due date as per the delivery schedule. No party shall, without the other party's prior written consent, disclose contract, drawings, specifications, plan, pattern, samples or other documents to any person other than an entity employed by the affected party for the performance of the contract. In case of the termination of the contract, all the documents prepared by the Bidder(s) under this contract shall become exclusive property of the KP. The Bidder(s) may retain a copy of such documents, but shall not use anywhere, without taking permission, in writing, from KP. KP reserves right to grant or deny any such request.

7.5 BIDDER(S) PERSONNEL

The Bidder(s) shall employ and provide such qualified and experienced personnel as may be required to perform the services under the specified project as assigned by the KP. This is a specialised domain of e-Governance and it is desirable from the Bidder(s) to deploy the personnel, who have adequate knowledge and experience in the domain related with this project. It is desirable that the Bidder(s) shall hire the services of domain specialists, if required, to work on the project effectively.

7.6 APPLICABLE LAW

It means the laws and any other instruments having the force of law in India as the Bidder(s) may be issued and in force legal from time to time. The Contracts shall be interpreted in accordance with laws of the Union of India and that of the State of Kerala.

7.7 USE OF CONTRACT DOCUMENTS AND INFORMATION

- a. The Bidder(s) shall not, without the KP's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the in connection therewith, to any person other than a person employed by the Bidder(s) in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend to only as far as may be necessary for purposes of such performance.
- b. The Bidder(s) shall not, without the KP's prior written consent, make use of any document or information except for purposes of performing the Contract.
- c. Any document, other than Contract itself, shall remain the property of the KP and shall be returned (in all copies) to the KP on completion of the Bidder(s)'s performance under the Contract if so required by the.

7.8 GOVERNING LANGUAGE

The Contract shall be written in English language. English version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the contract, which are exchanged between the parties, shall be written in English language. All submissions/documents/manuals/codes shall be in English only except the user manual.

7.9 FORCE MAJEURE

Notwithstanding anything contained in the RFP, the Bidder(s) shall not be liable for liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failures to perform its obligations under the agreement is the result of an event of Force Majeure.

For purposes of this clause "Force Majeure" means an event beyond the control of the Bidder(s) and not involving the Bidder(s)'s fault or negligence and which was not foreseeable. Such events include wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes. The decision of the KP regarding Force Majeure shall be final and binding on the Bidder(s).

If a Force Majeure situation arises, the Bidder(s) shall promptly notify to the KP in writing, of such conditions and the cause thereof. Unless otherwise directed by the KP in writing, the Bidder(s) shall continue to perform its obligations under the agreement as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

7.10 PAYMENTS IN CASE OF FORCE MAJEURE

During the period of their inability of services as a result of an event of Force Majeure, the Bidder(s) shall be entitled to continue to be paid under terms of this contract, as well as to be reimbursed for costs reasonably and necessarily incurred by them during such period purposes for the purpose of the services and in reactivating the service after the end of such period.

7.11 ACCESS TO AND POSSESSION OF THE SITE

The KP shall grant the Bidder(s) right of access to, and possession of, the Site within the time stated in the Appendix to Tender. Such right and possession may or may not be exclusive to the Bidder(s).

7.12 PERMITS, LICENCES OR APPROVALS

The KP will, at the request of the Bidder(s), assist him in applying for permits, licenses or approvals, which are required for any part of the Works, for delivery (including clearance through customs) of Plant, Materials and Bidder(s)'s Equipment, and for the completion of the Works. Such requests may also include requests for the KP's assistance in applying for any necessary government consent. Right of way for all SVDS locations for speed enforcement systems would be provided by KP.

7.13 KP'S ENTITLEMENT TO TERMINATE

The KP shall be entitled to terminate the Contract, at the KP's convenience ,at anytime after giving 180 days prior notice to the Bidder(s), with a copy to the Bidder(s)'s Representative, and returning the performance security.

After such termination for the KP's convenience, execution of the Works shall not be recommenced within a period of one year without the Bidder(s)'s consent.

7.14 PAYMENT ON TERMINATION

After termination under Clauses above, for reasons other than default by Bidder(s), the KP shall return the performance security and shall pay the Bidder(s) an amount calculated based on the Net Present value of the projected cash flows (As mentioned in Annexure 4: Projected cash flows and submitted by the Bidder(s)) for the pending tenure of the contract which the Bidder(s) may have suffered in consequence of termination.

7.15 INDEMNITY

Either party shall indemnify and hold each other harmless against any claims, damages, losses and expenses arising out of or resulting from the Works, including professional services provided by the Bidder(s).

These indemnification obligations shall be limited to claims, damages, losses and expenses which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of physical property (other than the Works), including consequential loss of use. Such obligations shall also be limited to the extent that such claims, damages, losses or expenses are caused in whole or in part by a breach of a duty of care, imposed by law on anyone directly or indirectly employed by either party.

7.16 LIMITATION OF LIABILITY

Barring cases of fraud, wilful misconduct or illegal or unlawful acts, the Bidder(s) shall in no event be liable to the KP, by way of indemnity or by reason of any breach of the Contract or in tort or otherwise, for loss of use of any part (or all) of the Works or for loss of production, loss of profit or loss of any contract or for any indirect special or consequential loss or damage which may be suffered by the KP in connection with the Contract. The total liability of the Bidder(s) to the KP under the Contract shall not exceed the total cash flow for the first year of operations (At actuals or as mentioned in Annexure 4, whichever is lower).

7.17 PENALTIES

The total penalties levied to the Bidder(s) during the tenure of the project will be limited to the first year cash flow generated by the Bidder(s) (At actuals or as mentioned in Annexure 4, whichever is lower).

7.18 LEGAL JURISDICTION

All legal disputes between the parties shall be subject to the jurisdiction of the courts situated in Thiruvananthapuram, Kerala only

7.19 BINDING CLAUSE

All decisions taken by the KP regarding the processing of this tender and award of contract shall be final and binding on all parties concerned.

7.20 AMENDMENT TORFP

At any time prior to the deadline for submission of bids, the KP may, for any reason, whether on its own initiative or in response to a clarification request by a prospective bidder, modify the bidding documents.

All prospective bidders who have received the bidding documents shall be notified of the amendment through website, and shall be binding on them.

7.21 VALIDITY OF THE PROPOSAL

Proposals shall remain valid for a period of 180 days (one hundred and eighty days) after the date of opening of the proposal prescribed in the RFP. A proposal valid for shorter period may be rejected as non-responsive. The KP may solicit the bidder's consent to an extension of the proposal validity (but without the modification in proposals).

7.22 RIGHT TO ACCEPT OR REJECT ANY PROPOSAL

The KP reserves the right to accept or reject any proposal, and to annul the proposal process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision.

7.23 PREPARATION OF THE PROPOSAL

The proposal and all associated correspondence shall be written in English and shall conform to prescribed formats. Any interlineations, erasures or over writings shall not be valid.

The proposal shall be typed or written in indelible ink (if required) and shall be initialled on all pages by authorised representative of the Bidder(s) to bind the Bidder(s) to the contract. The authorisation shall be indicated by Board resolution/Power of Attorney and shall accompany the proposal.

In addition to the identification, the covering letter (Form 1) shall indicate the name and address of the bidder to enable the proposal to be returned in the case it is declared late pursuant and for matching purposes.

The information must be definitive and specific. Vague terms, incomplete information, counter offers, and 'uncalled for' correspondence shall not be entertained.

Alteration/Rewording/Deletion/Correction of any part in the tender document are not permitted. If found in any bid proposal, bid may be liable to be rejected without prior intimation to the Bidder(s).

The Bidder(s) is/are expected to examine carefully all instructions, forms, terms and specifications in the tender document. Failure to furnish all information required in the tender document or submission of a proposal not substantially responsive to the tender document in every respect shall be at the bidder's risk and shall result in rejection of the proposal.

7.24 CONFIDENTIALITY

Information relating to the examination, clarification and comparison of the proposals shall not be disclosed to any Bidder or any other persons not officially concerned with such process until the selection process is completed. The undue use by any Bidder of confidential information related to the process may result in rejection of their proposal. Except with the prior written consent of the KP, no party, shall, at any time communicate to any person or entity any confidential information acquired in the course of the Contract.

7.25 DISQUALIFICATION

The KP may at its sole discretion and at any time during the evaluation process, disqualify any Bidder, if the Bidder has:

1. Submitted the Proposal document after the response deadline.
2. Made misleading or false representations in the forms, statements and attachments submitted in proof of the eligibility requirements.
3. Submitted a proposal that is not accompanied by required documentation or is non-responsive.
4. Failed to provide clarifications related hereto, when sought.
5. Declared ineligible by the Government of Kerala, or any of the departments in State Government, for corrupt and fraudulent practices or has been blacklisted at the time of submitting the bid.

7.26 FRAUD AND CORRUPTION

The KP requires that Bidder(s) selected through this RFP must observe the highest standards of ethics during the performance and execution of such contract. In pursuance of this policy, KP:

1. Defines, for the purposes of this provision, the terms set forth as follows:
 - a. "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of KP or any personnel of Department in contract executions.
 - b. "Fraudulent practice" means a misrepresentation of facts, in order to influence a procurement process or the execution of a contract, to KP, and includes collusive practice among bidders (prior to or after Proposal submission) designed to establish Proposal prices at artificially high or non-competitive levels and to deprive the KP of the benefits of free and open competition.
 - c. "Unfair trade practices" means supply of services different from what is ordered on or change in the Scope of Work, which was given by the KP.
 - d. "Coercive Practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the execution of contract.
2. Will reject a proposal for award, if it determines that the bidder recommended for award by the KP to having been engaged in corrupt, fraudulent or, unfair trade practices and coercive practices.
3. Will declare a Bidder(s) ineligible, either indefinitely or for a stated period of time, for awarding the contract, if it at any time determines that the Bidder(s) has engaged in corrupt, fraudulent and unfair trade practice in competing for, or in executing the contract.

7.27 COST OF TENDER DOCUMENT

1. Bid processing fee of Rs. **25,000 (Indian Rupees Twenty Five Thousand)** has to be paid online.
2. Proposals not accompanied by bid processing fees shall be rejected as non-responsive.
3. The processing fees will be non-refundable.

7.28 EARNEST MONEY DEPOSIT(EMD)

1. Earnest money deposit of Rs. **1,00,00,000 (Indian Rupees One Crore)** has to be paid online.
2. Proposals not accompanied with EMD shall be rejected as non-responsive.
3. The successful bidder's bid security will be discharged only after the signing of the contract and submission of performance security.
4. Unsuccessful bidder's EMD will be discharged/refunded as promptly as possible, but not later than 180 days of the validity period of the bid.
5. The EMD shall be forfeited:
 - a. If a Bidder(s) withdraws its bid during the period of bid validity
 - b. In case of a successful bidder, if the bidder fails:
 - i. To sign the Contract as mentioned above or
 - ii. To furnish performance bank guarantee as mentioned above or
 - iii. If the Bidder(s) is found to be involved in fraudulent practices.

7.29 PERFORMANCE BANK GUARANTEE(PBG)

1. The successful Bidder has to furnish a security deposit so as to guarantee his/her (Bidder) performance of the contract.
2. The Performance Bank Gurantee is reduced to 0.25% in case of the Boot Model and that can be taken back after the project is rolled out. The Successful Bidder has to submit Performance Bank Guarantee of 0.25% of the contract value (estimated total service charge per annum) within 15 days of the date (In the case of capex model) of issue of Purchase order for the duration of warranty from any of the Nationalised Banks, including the Public Sector Banks, or Private Sector Banks authorised by RBI or Commercial Banks.
3. The Performance security shall be payable to the KP as compensation for any loss resulting from the Bidder(s)'s failure to complete its obligations under the Contract.
4. The Performance Security will be discharged by the KP and returned to the Bidder on completion of the Bidder's performance obligations under the Contract.
5. No interest shall be payable on the PBG amount. The KP may invoke the above bank guarantee for any kind of recoveries, in case; the recoveries from the Bidder exceed the amount payable to the Bidder.

8 FORMATS FOR BID DOCUMENTS

8.1 BID COVERING LETTER

(To be prepared on letterhead of the Bidder)

To

Kerala Police
Police Headquarters,
Vellayambalam
Thiruvananthapuram- 695101

Subject: RFP for design, development, installation ,maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 0years)
Projects – Tender Ref No:

Dear Sir,

1. I/We, the undersigned, have carefully examined the contents of the above referred RFP document including amendments/ addendum/Corrigendum (if any) thereof and undertake to fully comply and abide by the terms and conditions specified therein and hereby submit our Bid for the aforesaid service. Our bid for the subject RFP is unconditional and unqualified.
2. I/We offer to execute the work in accordance with the Scope of work and the Conditions of Contract of this RFP both explicit and implied.
3. I/We undertake that, in competing for (and, if the award is made to us), for executing the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act1988".
4. I/We understand that:
 - a. This bid, if found incomplete in any respect and/ or if found with conditional compliance or not accompanied with the requisite Bid Security, shall be summarily rejected.
 - b. If at any time, any averments made or information furnished as part of this bid is found incorrect, then the bid will be rejected and the contract if awarded on the basis of such information shall be cancelled. KP is not bound to accept any/ all Bid(s) it will receive.
 - c. Until a contract is executed, this bid together with RFP Document as well as notification of Letter of Award issued by KP shall constitute a binding Contract between us.
5. I/We declare that:
 - a. I/We have not been declared ineligible by any Government agency or any other agency for indulging in corrupt or fraudulent practices.
 - b. I/We also confirm that I/We have not been declared as non- performing or debarred by any Government agency.
 - c. I/We haven't been blacklisted by a Central/ State Government institution/ Public Sector Undertaking/ Autonomous body and there has been no litigation with any Government Department/ PSU/ Autonomous body on account of similar services.
 - d. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the Contract Agreement, in respect of any

Tender or request for proposal issued by or any Contract entered into with KP or any other Public Sector Enterprise or any Government, Central or State;

6. I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of the RFP document, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
7. I/We have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the subject work or which relates to a grave offence that outrages the moral sense of the community.
8. Neither the bidder nor any of its Directors are the subject of criminal or civil proceedings that could be expected to adversely affect its business or its ability to bid in the present tender.
9. No investigation by a regulatory authority is pending either against us or against our CEO or any of our directors/ managers/employees.
10. The information provided in this technical bid (including the attachments) as well as the financial bid is true, accurate and complete to the best of my knowledge and belief. Nothing has been omitted which renders such information misleading; and all documents accompanying my/our bid are true copies of their respective originals.
11. I/We shall be liable for disqualification or termination of contract at any stage, if any information/declaration is found to be incorrect or false.
12. In the event of my / our bid being declared as successful bid, I/we agree to enter into a contract agreement in accordance with the format of the contract agreement. I/We agree not to seek any change in the aforesaid format of the contract agreement and agree to abide by the same.
13. I/We offer the Bid Security in accordance with the RFP document as per the details furnished below:

| BG/DD/Banker's Cheque/Pay Order No. | BG Validity | Date | Amount | Issuing Bank/ Branch |
|--|-------------|------|--------|-------------------------|
| | | | | |
14. The documents in original accompanying the bid document have been submitted in a separate envelope as envisaged in the RFP document and marked appropriately.
15. I am the Director / Authorised Signatory of the aforesaid company / firm and I am authorised to sign this bid on behalf of the firm /company.
16. I am submitting this bid after carefully reading all the terms and conditions contained in the RFP document and its addendum/amendment, if any, and undertake to abide by the same.
17. It is also certified that the bid is being submitted in the prescribed formats without any addition / deviation / alteration and our bid is unconditional.
Yours sincerely,

Name

Designation/ Title of the Authorised Signatory.....

8.2 BRIEF INFORMATION ABOUT THE BIDDER

(To be prepared on letterhead of the Bidder)

1.
 - a. Name of Bidder:
 - b. Year of establishment:
 - c. Registered Address:
 - d. Constitution of the bidder entity e.g. Government enterprise, private limited company, Limited company, proprietorship / partnership firm etc.
 - e. In case of a Government enterprise, please indicate as to whether legally and financially autonomous and operate under commercial law: Yes/ No/ Not applicable
 - f. Name(s) of Directors/ Proprietors/Partners
.....
.....
2. Address for correspondence with Telephone/ Fax numbers/ e-mail address:
 - (a) Complete postal address:
 - (b) Fixed telephone number
 - (c) Mobile telephone number
 - (d) E-mail address
3. Name & Address of the principalbanker1:
 - (a) Bank A/c Number
 - (b) Branch Address
 - (c) IFSC /MICR Code:
4. Name of the Statutory Auditor/ Company Secretary/ Chartered Accountant certifying the documents along with his/ her Membership number, if applicable:

Name

Designation/ Title of the Authorised Signatory.....

Date:

Place:

Signature of the Authorised Signatory

Name & Designation/ Title of the Authorised Signatory

(Company's Seal)

8.3 UNDERTAKING

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our company M/s have abandoned any work of Government of India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorize (s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Client to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Client.
5. We confirm that we have not been blacklisted /debarred by any central/state Government department/organisation or Quasi Government agencies of PSU.
6. We confirm that no criminal proceeding is pending any court of law.
7. We also confirm that we have not been convicted by any court of law for any of the offences under any Indian laws.

Signature of the Authorised Signatory

Name & Designation/ Title of the Authorised Signatory

(Company's Seal)

8.4 CERTIFICATE FOR BIDDER'S ANNUAL TURNOVER AND NET WORTH

Dated:...../...../2021

Certificate of Annual Turnover and Net Worth

It is certified that we have examined the books of accounts of M/s. (name and address of the bidder) and the requested financial details of the company, during last three financial years are asunder:

1. Annual Turnover

| Financial Year | Amount in figures | Amount in words |
|------------------|-------------------|-----------------|
| FY2015-16 | | |
| FY2016-17 | | |
| FY2017-18 | | |
| Average | | |

Amount in Rs. (Crore)

2. Annual Net Worth

| Financial Year | Amount in figures | Amount in words |
|------------------|-------------------|-----------------|
| FY2015-16 | | |
| FY2016-17 | | |
| FY2017-18 | | |
| Average | | |

Amount in Rs. (Crore)

(Signature of Statutory Auditor/ Chartered Accountant)

Name:

Seal:

Important Note:

- (i) In the above table, Financial Year (FY) means a period from 1ST April of preceding year to 31ST March of the succeeding year.

8.5 POWER OF ATTORNEY

Know all men by these presents, we, (name of the company and address of the registered office) do hereby constitute, nominate, appoint and authorise Mr / Ms..... son/daughter/wife of..... and presently residing at, who is presently employed with us and holding the position of..... as our true and lawful attorney (hereinafter referred to as the "Authorised Signatory or 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 submission of our Proposal for selection design, development, installation, maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 10 years, proposed by Kerala Police, including but not limited to signing and submission of all applications, proposals and other documents and writings, and providing information/responses to KP, representing us in all matters before KP, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with KP in all matters in connection with or relating to or arising out of our Proposal for the said Tender and/or upon award thereof to us.

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

IN WITNESS WHEREOF WE,.....THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS.....DAY OF.....,2021

For

(Signature, name, designation and address)

Witnesses:

1.

2.

Notarised Accepted

.....

(Signature, name, designation and address of the Attorney)

Notes:

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure. The Power of Attorney should be executed on a non-judicial stamp paper of appropriate denomination and should be registered or duly notarised by a notary public.

Wherever required, the Bidder should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, Applicants from countries that have signed the Hague Legislation Convention 1961 need not get their Power of Attorney legalized by the Indian Embassy if it carries a conforming Apostles certificate.

8.6 EARNEST MONEY DEPOSIT (EMD) BANKGUARANTEE

B.G.No.

Dated:

To,

Kerala Police
State Police Headquarters, Vellayambalam
Thiruvananthapuram-695101

1. WHEREAS M/s...(a company registered under the Companies Act, 1956) and having its registered office at(hereinafter referred to as the "Bidder" which expression shall unless it be repugnant to the subject or context thereof include its/their executors, administrators, successors and assigns) desires to submit bids for " " against KP's RFP No.
2. AND WHEREAS the said RFP requires the bidder(s) to furnish an Earnest Money Bank Guarantee (EMBG)/Performance Bank Guarantee along with their bids for the sum specified therein as security for compliance with his obligations in accordance with the said RFP.
3. AND WHEREAS at the request of the Bidder, we (..... Name of the Bank) having our registered office at..... and one of its branches at (hereinafter referred to as the "Bank"), have agreed to issue such a Bank Guarantee.
4. NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder for the sum of Rs. **1,00,00,000 (Indian Rupees One Crore)** only, and we undertake to pay you, upon your first written demand and without cavil or argument, and without reference to the Bidder, any sum or sums within the limits of Rs. **1,00,00,000 (Indian Rupees One Crore)** only as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.
5. Any such written demand made by the Authority stating that the Bidder is in default of the due and faithful fulfillment and compliance with the terms and conditions contained in the RFP Documents (hereinafter referred to as "Bidding Documents") shall be final, conclusive and binding on the Bank.
6. We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Bidder or any other person and irrespective of whether the claim of the Authority is disputed by the Bidder or not, merely on the first demand from the Authority stating that the amount claimed is due to the Authority by reason of failure of the Bidder to fulfill and comply with the terms and conditions contained in the Bidding Documents including failure of the said Bidder to keep its Bid open during the Bid validity period as set-forth in the said Bidding Documents for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards amount due and payable by the Bank under this Guarantee.
7. This Guarantee shall be irrevocable and remain in full force for a period of 120 (one hundred and twenty) days after the Bid Due Date. The claim period shall be 60 (sixty) days thereafter or for such extended period as may be mutually agreed between the Authority and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all under this Guarantee have been paid.
8. We, the Bank, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfillment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its Bid open during the Bid validity period set forth in the said Bidding Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, Tribunal, Arbitrator or any other Authority.

9. The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger or amalgamation of the Bidder or the Bank with any other person.
10. In order to give full effect to this Guarantee, the Authority shall be entitled to treat the Bank as the principal debtor. The Authority shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the said Bidding Documents or to extend time for submission of the Bids or the Bid validity period or the period for conveying acceptance of Letter of Award by the Bidder or the period for fulfillment and compliance with all or any of the terms and conditions contained in the said Bidding Documents by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the said Bidding Documents or the securities available to the Authority, and the Bank shall not be released from its liability under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the Authority or any indulgence by the Authority to the said Bidder or by any change in the constitution of the Authority or its absorption, merger or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.
11. Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
12. We undertake to make the payment on receipt of your notice of claim on us addressed to name of Bank along with branch address and delivered at our above branch which shall be deemed to have been duly authorised to receive the said notice of claim. This guarantee shall also be operable at ourbranch at Thiruvananthapuram, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
13. It shall not be necessary for the Authority to proceed against the said Bidder before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which the Authority may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealized. _
14. We, the Bank, further undertake not to revoke this Guarantee during except with the previous express consent of the Authority in writing.
15. The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Guarantee for and on behalf of the Bank.
16. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs. **1,00,00,000 (Indian Rupees One Crore)** only. The Bank shall be liable to pay the said amount or any part thereof only if the Authority serves a written claim on the Bank in accordance with paragraph 12 hereof, on or before (indicate date falling 120+60 days after the Bid Due Date).

(Signature of the Authorised Signatory) (Official Seal)

Name:

Date:

Designation:

Employee Code Number:

Telephone Number:

Name of issuing bank branch _____

Address _____

Telephone number _____

E-mail: _____

Name of bank branch at Thiruvananthapuram _____

Address _____

Telephone number _____

E-mail: _____

Name of controlling bank branch _____

Address _____

Telephone number _____

E-mail: _____

8.7 FORMATS FOR FINANCIAL BID

8.7.1 FORMAT FOR FINANCIAL BID

(Rate should be submitted through online only. The below format of financial bid excluding the rate, duly signed should also be uploaded along with other documents)

To

Kerala Police
State Police Headquarters, Vellayambalam
Thiruvananthapuram-695101

Subject: Financial Bid for "Design, development, installation, maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 10 years"

Dear Sir,

1. I/We, the undersigned having examined the above referred RFP including addendum thereof and, hereby offer to submit our bid to undertake the subject assignment with scope of work mentioned in the said RFP Document with quarterly payments according to the BOOT model as under:

| | |
|---|--|
| Revenue sharing for Violation challan fines collected by Bidder (As per <i>clause 5.19.2</i>) | Percentage of revenue shared with Kerala Police <ul style="list-style-type: none">○ % Revenue offered to Government if 100% of chalans is realized :○ % Revenue offered to Government if 90% of chalans is realized :○ % Revenue offered to Government if 80% of chalans is realized :○ % Revenue offered to Government if 70% of chalans is realized :○ % Revenue offered to Government if 60% of chalans is realized :○ % Revenue offered to Government if 50% of chalans is realized :○ % Revenue offered to Government if <50% of chalans is realized |
| | After 5 years, the rate of percentage of revenue offered to the Government would increase by 5% every year. |
| | The percentage of share of the Government will be automatically credited to the Government and the shares of the vendor would also designed in such a manner, that all members in case the vendor is a Consortium can automatically receive their respective share at the time of monthly payments. |

2. I/We hereby confirm that the quoted rates include all the charges payable in full compliance to the Scope of Work and would include charges for hardware/software, premises, manpower etc. and other terms specified in the RFP document with 10 year AMC for all equipments and FMS for Central Control room and for 14 district payment collection centres. No additional charges have been envisaged.
3. I/We also understand that apart from payments against the services provided to KP in compliance to the prescribed scope of work, KP is not liable to make any other payments whatsoever except reimbursement of Goods and Services tax (in addition to the quoted price).
4. I/We do hereby confirm that my/ our bid price includes all statutory taxes/ levies but excluding Goods and Services tax.
5. I/We also declare that any tax, surcharge on tax and / or any other levies, if altered in future and payable under the law, the same shall be borne by me/us.
6. This bid is valid for a period of 180 calendar days from the bid due date.
7. I/We understand that the applicable statutory deductions will be deducted against payments as per Applicable Law.
8. In case of any difference in figures and words, the amount mentioned in words will prevail.

Yours sincerely, Name

Designation/ Title of the Authorized Signatory.....

(Company's Seal)

Notes:

The financial evaluation shall be based on the above Financial Bid.

8.7.2. FORMAT FOR ALTERNATE FINANCIAL BID

(To be submitted on letterhead of the Bidder)

To

Kerala Police
State Police Headquarters, Vellayambalam
Thiruvananthapuram-695101

Subject: Alternate Financial Bid for" Design, development, Installation, maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 10 years.

Dear Sir,

1. I/We, the undersigned having examined the above referred RFP including addendum thereof and, hereby offer to submit our bid to undertake the subject assignment with scope of work mentioned in the said RFP Document according to the NON- BOOT model asunder:

| Sl.No | Revenue Source | Bid Amount (Basic Price) | Tax Amount | Total Amount |
|-------|---|------------------------------|------------|--------------|
| 1. | Capital Equipment Cost (Field & control room) with 10 year AMC | | | |
| 2. | Service charge per challan generated (to be paid by KP to the bidder)–For 10 year including challan processing, stationary charges, SMS charges and postal charges-Total estimated number of challan is Rs.50 lakhs per year | | | |
| 3. | Fixed charge:–Recurring expenses- Broadband connectivity charges for central control room and all enforcement camera locations (Total 880 locations), Power charges for central control room and all enforcement camera locations, Diesel generator charges, Vehicle management charges including fuel charges, maintenance charges, tax, insurance and man power charges for 10years All recurring charges including water, consumables etc. to be borne by the bidder | | | |
| 4 | Fixed charge: Manpower charges, Minimum manpower required for Control room and 14 district payment collection centers .for 10 years) All recurring charges. to be borne by the bidder | | | |

| | | | | |
|---|--|--|--|--|
| | Minimum man power required 1 CR Managers – 3 Nos 2 CR System Admin- 5 Nos 3 CR Supervisors – 6 Nos 4 CR operators – 75 Nos 5 District payment collection center operators – 28 nos. 6 Driver cum operator -120 No's (all costs to be borne by bidder) | | | |
| TOTAL COST FOR NON BOOT MODEL INCLUDING CAPEX WITH 10 YEAR WARRANTY AND OPEX FOR 10 YEARS = Rs. | | | | |

Fine rates are published by KP / MVD periodically, same can be used for fine amount estimation

2. I/We hereby confirm that the quoted rates include all the charges payable in full compliance to the OPEX part of Work. And would include charges for hardware/software, manpower etc. and other terms specified in the RFP document. No additional charges have been envisaged (KP will give space for Central Control room, around 2000 Sq.Ft.)
3. I/We also understand that apart from payments against the services provided to KP in compliance to the prescribed scope of work, KP is not liable to make any other payments whatsoever except reimbursement of Goods and Services tax (in addition to the quoted price).
4. I/We do hereby confirm that my/ our bid price includes all statutory taxes/ levies but excluding Goods and Services tax.
5. I/We also declare that any tax, surcharge on tax and / or any other levies, if altered in future and payable under the law, the same shall be borne by me/us.
6. This bid is valid for a period of 180 calendar days from the bid due date.
7. I/We understand that the applicable TDS will be deducted against payments as per Applicable Law.
8. In case of any difference in figures and words, the amount mentioned in words will prevail.

Yours sincerely,

Name

Designation/ Title of the Authorised Signatory.....

(Company's Seal)

8.8 PERFORMANCE BANK GUARANTEE

To,

Kerala Police
State Police Headquarters,
Vellayambalam
Thiruvananthapuram-695101

1. WHEREAS [Name and address of Service Provider] (hereinafter called "the Service Provider") has undertaken, in pursuance of Letter of Award(LOA) No. dated //2019 for "Design, development, installation, maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 10years" (hereinafter called the "Contract").
2. AND WHEREAS it has been stipulated by you in the said LOA that the Service Provider shall furnish you with a Bank Guarantee for the sum specified therein as security for compliance with his obligations in accordance with the Contract.
3. AND WHEREAS we have agreed to give the Service Provider such a Bank Guarantee:
4. NOW THEREOF we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider up to a total of Rs.[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.
5. We hereby waive the necessity of your demanding the said debt from the Service Provider before presenting us with the demand.
6. We further agree that no change or addition to or other modification of the terms of the service provider or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Service Provider shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.
7. We undertake to pay to the KP any money so demanded notwithstanding any dispute or disputes raised by the Service Provider(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Service Provider(s) shall have no claim against us for making such payment.
8. The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the Service Provider or of the Bank.
9. This guarantee shall also be operable at our branch at Thiruvananthapuram, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and

payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

10. This bank guarantee shall be valid from.....

11. Notwithstanding anything contained herein:

(i) Our liability under this Bank Guarantee shall not exceed /-

(ii) The Bank Guarantee shall be valid upto.....

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

Name:

Date:

Designation:

Employee Code Number:

Telephone Number:

Name of issuing bank branch _____

Address _____

Telephone number _____

E-mail: _____

Name of bank branch at Thiruvananthapuram _____

Address _____

Telephone number _____

E-mail: _____

Name of controlling bank branch _____

Address _____

Telephone number _____

E-mail: _____

NON DISCLOSURE AGREEMENT

This Non Disclosure Agreement (hereinafter called the "NDA") is made on.....day of the Month of
,2018

BETWEEN

Kerala Police and having its headquarters at State Police Headquarters, Vellayambalam,
Thiruvananthapuram-695101 (hereinafter referred to as the "Disclosing Party")

AND

M/s ,a company incorporated under the provisions of the Companies Act,1956 and
having its registered office at (hereinafter referred to as
"Receiving Party") (collectively referred to as "the parties")

In connection with "Design, development, installation, maintenance and operation of the Integrated Digital Traffic Enforcement System for Kerala Police for 14 years", the Receiving Party was engaged as **Service Provider** by the Disclosing Party, the Parties have agreed to execute this Non Disclosure Agreement to ensure that all information provided by the Disclosing Party to the Receiving Party in the course of engagement of the Receiving Party as **Service Provider** is kept confidential.

WHEREAS

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. Definitions

- a) "**Purpose**" shall mean "Design, development, installation, maintenance and operation of the Total Integrated Digital Traffic Enforcement System for Kerala Police for 14 years", by the Receiving Party to the Disclosing Party.
- b) "**Confidential Information**" shall mean all discussions, documents, paper, discs, technology, procedure and other information of a confidential nature pertaining to, generated or disclosed by either party in any form including in writing, electronically, computerised orally or otherwise marked as "Confidential" or informed to be 'Confidential' or relating to the Purpose, including, without limitation:
 - (i) All financial details investment plans, price specifications, schemes, technology know-how, techniques and information relating to business, investments, transactions or affairs, services being rendered, plans for business investments or for improving services and discussions on future services; and all other information, material or data relating to the current and /or future business and operations of the Disclosing Party and analysis, compilations, studies, summaries, extracts or other documentation prepared by the Receiving Party arising out of the Confidential Information.
 - (ii) The terms of this or any other agreement or document signed or to be signed by or between the Parties and the provisions thereof.

However, "Confidential Information" shall exclude any part of such disclosed information or data which: -

- i. is in or comes into the public domain in any way without breach of this Agreement by the Receiving Party; or
- ii. the Receiving Party can show (a) was in its possession or known to it by being in its use or being recorded in its files or computers or other recording media prior to receipt from the Disclosing Party and was not previously acquired by the Receiving Party from the Disclosing Party under an obligation of confidence, or (b) to have been developed by or for the Receiving Party at any time independently of any information disclosed to it by the Disclosing Party ;or
- iii. the Receiving Party obtains from a source other than the Disclosing Party without breach

- by the Receiving Party or such source or any obligation of confidentiality or non-use towards the Disclosing Party ;or
- iv. is hereafter furnished by the Disclosing Party to a third party without restriction on disclosure or use; or
 - v. is disclosed by the Receiving Party (a) with the prior written approval of the Disclosing Party, or (b) without such approval, after a period of one (1) year from the date of receipt thereof.

2. Handling of Confidential Information

The Receiving Party shall maintain the Disclosing Party's Confidential Information in confidence and shall exercise in relation thereto no lesser security measures and degree of care than those which the Receiving Party applies to its own Confidential Information which the Receiving Party warrants as providing adequate protection against unauthorized disclosure, copying or use. The Receiving Party shall ensure that disclosure of such Confidential Information is restricted to those employees, directors, officers, representatives, advisors, consultants or agents (collectively referred to as "Representatives") of the Receiving Party having the need to know the same for the Purpose. Copies or reproductions shall not be made except to the extent reasonably necessary for the Purpose and all copies made shall be the property of the Disclosing Party. All Confidential Information and copies thereof shall be returned to the Disclosing Party within seven (7) days of receipt of a written request from the Disclosing Party. The Receiving Party shall not attempt to reverse engineer, decompile, disassemble or reverse translate any Confidential Information provided by the Disclosing Party or discover the source code or trade secrets in any such Confidential Information.

Nothing in this Agreement shall limit the ability of a party to disclose such Confidential Information of the other party if such disclosure is (a) required to be made pursuant to any law or regulation, government authority, duly authorized subpoena or court order, whereupon that party shall provide prompt notice to the Disclosing Party of the Confidential Information in question, who will thereof have the opportunity to respond prior to such disclosure; (b) required to be made by a court or other tribunal in connection with the enforcement of such Disclosing Party's rights under this Agreement, or (c) is approved by the prior written consent of the Disclosing Party of the Confidential Information.

Limitations and Warranty

- a. The Receiving Party shall (i) not divulge the Disclosing Party's Confidential Information, in whole or in part, to any third party without the prior written consent of the Disclosing Party, (ii) use the same only for the Purpose, and (iii) make no commercial use of the same or any part thereof without the prior written consent of the Disclosing Party. Notwithstanding the foregoing, the Receiving Party shall be entitled to make any disclosure required by law of the Disclosing Party's Confidential Information.
- b. The Disclosing Party warrants its right to disclose its Confidential Information to the Receiving Party and to authorize the Receiving Party to use the same for the Purpose.

4. Disclaimer

All rights in Confidential Information are reserved by the Disclosing Party and no rights or obligations other than those expressly recited herein are granted or to be implied from this Agreement. In particular, no license is hereby granted directly or indirectly under any invention, discovery, patent, copyright or other intellectual property right now or in the future held, made, obtained or licensable by either party. Nothing in this Agreement or its operation shall constitute an obligation on either party to enter into the aforesaid business relationship or shall preclude, impair or restrict either party from continuing to engage in its business otherwise than in breach of the terms of this Agreement

5. Notices

All notices under this Agreement shall be in writing, sent by facsimile or first-class registered or recorded delivery post to the party being served at its address specified above or at such other address of which such party shall have given notice as aforesaid, and marked for the attention of that party's signatory of this Agreement. The date of service shall be deemed to be the day following the day on which the notice was transmitted or posted as the case may be.

6. No Bar on Participation in Projects initiated by the Disclosing Party

The Disclosing Party acknowledges that the advisory mandate awarded to the Receiving Party will not bar the Receiving Party or any of its group companies from bidding or participating in any projects initiated by the Disclosing Party on the ground that the Receiving Party was privy to information which was not within the public domain.

On its part the Receiving Party shall ensure, confirm and warrant that neither the Receiving Party nor any of its group companies will misuse the information available to it in the course of the advisory mandate to derive an unfavorable advantage in bidding /participation in any projects initiated by the Disclosing Party. The Disclosing Party on its part shall not summarily debar or reject the bid/participation of the Receiving Party on the ground that the receiving Party was privy to confidential information and it has derived undue advantage, unless reasonable opportunity has been given to the Receiving Party to put forth its say.

7. Non-Assignment

This Agreement is personal to the parties and shall not be assigned or otherwise transferred in whole or in part by either party without the prior written consent of the other party.

8. Forbearance

No relaxation, forbearance or delay by a party in enforcing any of the terms of this Agreement shall prejudice, affect or restrict its rights, nor shall waiver by a party of any breach hereof operate as a waiver of any subsequent or continuing breach.

9. Indemnity

The Receiving Party agrees to indemnify the Disclosing Party for any loss or damage suffered due to any breach by it of its obligations under this Agreement. Damages shall include all costs, expenses and attorney's fees incurred by the Disclosing Party in the enforcement of this Agreement. PROVIDED ALWAYS THAT IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY INDIRECT, INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES, LOST BUSINESS, LOST SAVINGS OR LOST PROFITS OR REVENUES RESULTING FROM A BREACH OF THIS

AGREEMENT EVEN IF THE BREACHING PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF THE OCCURRENCE OF SUCH DAMAGES.

10. Non-Publicity

The parties shall not make any announcement or disclosure of any kind whatsoever concerning this Agreement, including without limitation the existence of this Agreement, Without the other Party's prior written consent unless such announcement and/or disclosure is required by law.

11. Notwithstanding anything contained herein to the contrary, the obligations of the Parties herein shall continue for a period of one (1) year from the date of this Agreement or if a further agreement is entered into, the termination of such further agreement, whichever is the later.

12. The Receiving Party agrees that the obligations contained in this Agreement shall extend to the affiliated companies of the Receiving Party and to all its advisors and consultants. In this respect the Receiving Party represents that an agreement to keep such information confidential, on terms similar to this Agreement, is in place before disclosing any Confidential Information to such affiliate, advisor or consultant.

13. Entire Agreement

This Agreement constitutes the entire agreement and understanding between the parties in respect of Confidential Information and supersedes all previous agreements, Understandings and undertakings in such respect. This Agreement cannot be amended except by written agreement signed on behalf of each party by their authorized signatories.

14. Dispute Resolution

The parties shall attempt to resolve any dispute arising out of or in connection with this Agreement by mutual consultation, failing which such dispute shall be referred to and finally resolved by arbitration in India under the auspices and governed by the provisions of the Arbitration and Conciliation Act, 1996. The arbitration shall be at Thiruvananthapuram and only the courts at Thiruvananthapuram shall have the jurisdiction to try any matters arising from the arbitration. The language of the arbitration shall be in English.

15. Governing Law and Jurisdiction

This Agreement shall be governed by and construed in all respects in accordance with the laws of India.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives on the day and year first above written.

On behalf of Disclosing Party

On behalf of Receiving Party

Signature

Signature

Name_____

Name

Title _____

Title

UNDERTAKING ON BIDDER'S EXPERIENCE

| Sl. No | Name of the Client | Contract Value | Start Date | End Date (Leave blank if project is ongoing) | Brief Scope of Work | Whether Copies of Purchase Orders/ Contracts from the Client attached? (Yes/No) |
|--------|--------------------|----------------|------------|---|---------------------|---|
| | | | | | | |
| | | | | | | |

We are attaching the required copies of the Purchase Orders / Contracts/ testimonials from the respective client Organizations'.

Authorised Signatory:

Name & Title of Signatory:

Name of Bidder:

Important Notes: Please mention the experience in above table in decreasing order of project/contract cost.

9 ANNEXURES

Annexure 1: Responsibility Matrix

| Stake holders | Responsibilities | | | | |
|-----------------------|--|--|--|--|---|
| Kerala Police | Issue of LoA | Approve pilot and awareness campaign through print and digital media. | Providing permissions from Municipalities for setting up of ESs | Space for Installations | Introduce Electronic solution for issuing chalans |
| RTO | Provide access to Vaahan database | Provide name and addresses for vehicle registration numbers along with email | Mandate that the PUC test centres use the online system provided by the bidder for PUC certificate issue | | |
| Traffic Police | | | Depute personnel for Challan verification at CMC | Issue legal notice for fine defaulters | |
| Bidder | Manage enforcement stations on behalf of Kerala Police | Maintain the System | Detect violations, print and dispatch Challans | Ensure equipments are tamper free and timebound calibrations of equipments | |
| Road User | Comply with rules and regulations | Pay fines | | | |

Annexure2: Indicative Bill of Quantities (Minimum Quantity)

| SL. No | ITEM | QTY |
|---------------|--|--------------------|
| 1 | Fixed radar based speed enforcement systems (SVDS) With spot & average speed enforcement as per specifications & BOM | 200 Nos or more |
| 2 | Red light violation detection systems as per specifications & BOM QTY of RLVD : 3 ARM 10 no's, 4 ARM 20 nos. Assume 2 lane roads for RLVD, in some locations 3 lane systems will be required. | 30Nos |
| 3 | Helmet detection systems as per specifications & BOM Assume 2 lane roads, in some locations 3 lane systems will be required. | 100Nos |
| 4 | Radar based Mobile SVDS systems with vehicles | 60 Nos |
| 5 | AI camera based Smart enforcement camera system Assume 2 lane roads, in some locations 3 lane systems will be required | 400 Nos |
| 6 | Control room hardware & software as per BOM & specifications | 1 No |
| 7 | District payment collection centres Only office space will be provided by KP. Furnishing, furniture, equipment's etc. by Bidder | 14 Nos |

Annexure 3: Key Project Professional

| SL. No. | Designation/Profile | Experience (in Years) | Required |
|----------------|----------------------------|------------------------------|-----------------|
| 1 | Project Manager | 15 | 1 |
| 2 | Operations Manager | 15 | 1 |
| 3 | IT Expert | 10 | 1 |
| 4 | Database Expert | 10 | 1 |
| 5 | ITS Design Engineer | 10 | 1 |
| 6 | System Administrators | 10 | 3 |

Annexure 4: Projected Cash Flows

Please list the assumptions and provide the financial model used for calculating the cash flow for the project.

| Year of operation | Expected cash flow from different enforcement Challaning | Total cash flow |
|--------------------------|---|------------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| End of project | | |

Annexure 5- List of Tentative places where it is proposed to install the SVDS Cameras.

The list is only tentative and subject to changes. List of final locations to be finalized with Police department before the implementation of the Project

Annexure 5 LIST OF LOCATIONS

| KASARAGOD DISTRICT | | | | | |
|--------------------|-----------------------------------|----------------------|--------|-----------|--------------|
| SL NO | LOCATION | TOWN | SYSTEM | DIRECTION | ROAD |
| 1 | CHITHARI | BAKEL | SVDS | BOTH | KSTP |
| 2 | THALAPADI * (SBR) | THALAPADI | SVDS | B TH | NH17 |
| 3 | IZZATNAGAR | MELPARAMBHA | SVDS | BOTH | KSTP |
| 4 | BAKEL,LPSCHOOL | BAKEL | SVDS | BOTH | KSTP |
| 5 | POOCHAKKAD | POOCHAKKAD | SVDS | BOTH | KSTP |
| 6 | PERLA BRIDGE *(SBR) | ADAKASTALA | SVDS | B TH | SH31 |
| 7 | KOTIYADI FOREST CHECK POST *(SBR) | JALSOOR ROAD | SVDS | B TH | SH55 |
| 8 | PANATUR *(SBR) | MADIKERI ROAD | SVDS | B TH | SH56 |
| 9 | THE JASWINI BRIDGE*(SBR) | CHERUVATUR | SVDS | B TH | NH17 |
| 10 | KUNJATHOOR | MANJESWER | SVDS | BOTH | NH |
| 11 | CHERUPUZHA | PANATOOR | SVDS | BOTH | SH |
| KANNUR DISTRICT | | | | | |
| SL NO | LOCATION | TOWN | SYSTEM | DIRECTION | ROAD |
| 12 | THANTHODE | IRITTY | SVDS | BOTH | SH36 |
| 13 | PAYANCHERY | IRITTY | SVDS | BOTH | SH59 |
| 14 | VALAPATTANAM BRIDGE*(SBR) | KANNUR TOWN | SVDS | B TH | NH 17 |
| 15 | ADUTHILA | PILATHARA | SVDS | BOTH | KSTP |
| 16 | THAVAM | CHERUKUNNU | SVDS | BOTH | KSTP |
| 17 | KOOTUPUZHA BRIDGE (SBR) | THALASSERY CORG ROAD | SVDS | B TH | SH59 |
| 18 | CHERUPUZHA BRIDGE*(SBR) WN | CHERUPUZHA | SVDS | B TH | SH59 |
| 19 | NELLUNI | MATTANUR | SVDS | BOTH | KSTP |
| 20 | KOTTAPALAM | PAPPINISSERY | SVDS | BOTH | KSTP |
| 21 | MANDOOR | MANDOOR | SVDS | BOTH | KSTP |
| 22 | PUNNAD | IRITTY | SVDS | BOTH | KSTP |
| 23 | MATTANUR ANJARAKANDI | AIR PORT ROAD | SVDS | BOTH | AIRPORT ROAD |
| 24 | ALAKODE -VALLITHODE | POINT1 | SVDS | BOYH | HILL HIGHWAY |
| 25 | ALAKODE -VALLITHODE | POINT2 | SVDS | BOTH | HILL |

| | | | | | |
|----|----------------------|--------|------|------|---------|
| | | | | | HIGHWAY |
| 26 | THALASERY - MATANNUR | POINT1 | SVDS | BOTH | SH 30 |
| 27 | THALASERY - MATANNUR | POINT2 | SVDS | BOTH | SH 30 |

| WYNAD DISTRICT | | | | | |
|------------------|------------------------------|-----------------------------------|---------|------------|---------|
| SL NO | LOCATION | TOWN | SYS TEM | DIRECTION | ROAD |
| 28 | MUTTILNORTH | MUTTIL | SVDS | BOTH | NH212 |
| 29 | KRISHNAGIRI | MEENAGADI | SVDS | BOTH | NH212 |
| 30 | PANAMARAM | PANAMARAM | SVDS | BOTH | |
| 31 | KALPATTABYPASS | | SVDS | BOTH | BYPASS |
| 32 | KATTIKULAM *(SBR) | MANANTHAVA DI - MYSORE ROAD | SVDS | BOTH | |
| 33 | MUTHANGAPALAM *(SBR) | CALICUT MYSOORROAD | SVDS | BOTH | NH 213 |
| 34 | NOOLPUZHA *(SBR) | TAMILNADU STATEBORDER | SVDS | BOTH | NH212 |
| 35 | VADUVANCHALBRIDGE *(SBR) | CALICUT OOTY ROAD | SVDS | BOTH | SH29 |
| 36 | VYTHIRI | CALICUT WYNAD ROAD | SVDS | BOTH | NH212 |
| 37 | BOYS TOWN - MANANTHAVADY | DISTRICT ENTRY EXIT | SVDS | BOTH | NSH-59 |
| 38 | MATTILAYAM- PUZHA NAVIL | DISTRICT ENTRY EXIT | SVDS | BOTH | SH - 54 |
| CALICUT DISTRICT | | | | | |
| SL NO | LOCATION | TOWN | SYS TEM | DIRECTION | ROAD |
| 39 | ERANJIPPALAM- ROAD MAVOOR | BY PASS | SVDS | BOTH | BY PASS |
| 40 | ERANJIKALPOOKAD | STRETCH | SVDS | BOTH | |
| 41 | CALICUT WYNADROAD | | SVDS | BOTH | NH |
| 42 | CALICUT KANNURBYPASS | POINT1 | SVDS | BOTH | NH17 |
| 43 | CALICUT KANNURBYPASS | POINT2 | SVDS | BOTH | NH17 |
| 44 | CALICUT KANNURBYPASS | POINT3 | SVDS | BOTH | NH17 |
| | | | | | |
| TRICHUR DISTRICT | | | | | |
| SL NO | LOCATION | TOWN | SYS TEM | DIRECT ION | ROAD |
| 45 | KOMBARA | KPLOIL-THR. | SVDS | BOTH | SH22 |
| 46 | CHERUTHURUTHI | BRIDGE-THR | SVDS | BOTH | SH22 |
| 47 | CHETTUPUZHACHURCH | CHETTUPUZHA- THR | SVDS | BOTH | SH75 |

| 48 | VALAPAD | THRISSUR | SVDS | BOTH | SH |
|---------------------------|------------------------|-----------------|----------------|------------------|------------------|
| 49 | NATTIKA | THRISSUR | SVDS | BOTH | SH |
| 50 | VADANAPPALLY | THRISSUR | SVDS | BOTH | SH |
| 51 | ENGANDIYOOR | THRISSUR | SVDS | BOTH | SH |
| 52 | ORUMANAYUR | THRISSUR | SVDS | BOTH | SH |
| 53 | PUTHYARA | THRISSUR | SVDS | BOTH | SH |
| 54 | NALLAMKALLU | THRISSUR | SVDS | BOTH | SH |
| 55 | PARAPPURAM | THRISSUR | SVDS | BOTH | SH |
| 56 | GURUVAYOOR - CHOONDAL | THRISSUR | SVDS | BOTH | SH49 |
| 57 | CHALAKUDI-VAZHACHAL-1 | POINT1 | SVDS | BOTH | SH21 |
| 58 | CHALAKUDI-VAZHACHAL-2 | POINT2 | SVDS | BOTH | SH21 |
| ERNAKULAM DISTRICT | | | | | |
| SL NO | LOCATION | LANDMARK | SYS TEM | DIRECTION | ROA D |
| 59 | MULAVUKADU | MASJID | SVDS | BOTH | NH47 C |
| 60 | CHERANELLORE | TEMPLE STOP | SVDS | BOTH | NH47 C |
| 61 | PUNNAKARU | ERNAKULAM | SVDS | BOTH | NH66 |
| 62 | KAIPAMANGALAM | ERNAKULAM | SVDS | BOTH | NH66 |
| 63 | TRIPUNITHARA – KAKANAD | POINT1 | SVDS | BOTH | SEA PORT AIRPORT |
| 64 | TRIPUNITHARA – KAKANAD | POINT2 | SVDS | BOTH | SEA PORT AIRPORT |
| 65 | TRIPUNITHARA – KAKANAD | POINT 3 | SVDS | BOTH | SEA PORT AIRPORT |
| 66 | ALUVAI - MUNNAR | POINT1 | SVDS | BOTH | NH49 |
| 67 | ALUVAI - MUNNAR | POINT1 | SVDS | BOTH | NH49 |
| 68 | ALUVAI - MUNNAR | POINT1 | SVDS | BOTH | NH49 |
| 69 | ETTUMANUR - COCHIN | POINT1 | SVDS | BOTH | SH15 |
| 70 | ETTUMANUR - COCHIN | POINT2 | SVDS | BOTH | SH15 |
| 71 | AROOR – MANNUTHY NH | POINT1 | SVDS | BOTH | NH 47 |
| 72 | AROOR – MANNUTHY NH | POINT2 | SVDS | BOTH | NH47 |
| 73 | AROOR – MANNUTHY NH | POINT 3 | SVDS | BOTH | NH 47 |
| 74 | AROOR – MANNUTHY NH | POINT 4 | SVDS | BOTH | NH 47 |
| PALAGHAT DISTRICT | | | | | |
| SL NO | LOCATION | LANDMARK | SYS TEM | DIRECTION | ROA D |
| 75 | ELAPULLY | BUSSTOP | SVDS | BOTH | SH52 |

| | | | | | |
|------------------|-----------------------|-----------------|--------------------|------------------|-------------|
| 76 | KOZHINJAMBARA | CULVERT | SVDS | BOTH | SH52 |
| 77 | KOLLENGODE | BUSSTOP | SVDS | BOTH | SH58 |
| 78 | MEENKARA | CHURCH | SVDS | BOTH | NH47 C |
| 79 | MEENAKSHIPURAM ROAD | SBR | SVDS | BOTH | |
| 80 | WALAYAR*(SBR) | | SVDS | BOTH | NHAI |
| SL NO | LOCATION | LANDMARK | SYST EM | DIRECTION | ROAD |
| 81 | NEDIYIRIPPU | TEMPLE | SVDS | BOTH | NH 966 |
| 82 | VALLUMBRAM | ALP SCHOOL | SVDS | BOTH | NH 966 |
| 83 | ARAVANGARA | ATHANIKAL | SVDS | BOTH | NH 966 |
| 84 | NARUKARA | CHURCH | SVDS | BOTH | SH28 |
| 85 | MAMPAD | MLP SCHOOL | SVDS | BOTH | SH28 |
| 86 | NILAMBUR | KTDC | SVDS | BOTH | SH28 |
| 87 | MUNDA | ATHANIKAL | SVDS | BOTH | SH28 |
| 88 | KARIPOOR | AIRPORT ROAD | SVDS | BOTH | SH28 |
| 89 | KODUR | WEST KODUR | SVDS | BOTH | SH71 |
| 90 | VELIYANCODE | MALAPPURAM | SVDS | BOTH | MDR |
| 91 | POORAPUZHA | MALAPPURAM | SVDS | BOTH | MDR |
| 92 | KADALUNDY | MALAPPURAM | SVDS | BOTH | SH |

| DISTRICT IDUKKY | | | | | |
|-----------------|---------------------------------------|---------------------|-------------|-------------------|-------------|
| SL NO | LOCATION | DISTRICT | SYST EM | DIRE CTIO N | ROAD |
| 93 | MUNNAR - CHINNAR | IDUKKY | SVDS | BOTH | SH |
| 94 | THODUPUZHA PULIYANMALA | POINT1 | SVDS | BOTH | SH |
| 95 | THODUPUZHA PULIYANMALA | POINT2 | SVDS | BOTH | SH |
| 96 | KUMILY PERIYARVILA *(SBR) | STATE BORDER | SVDS | BOT H | SH36 |
| 97 | THODUPUZHA MOOVATUPUZHA | POINT1 | SVDS | BOTH | SH |
| 98 | THODUPUZHA MOOVATUPUZHA | POINT2 | SVDS | BOTH | SH |
| | | | | | |

| KOTTAYAM DISTRICT | | | | | |
|-------------------|------------------------|--------|------|------|------|
| 99 | KOTTAYAM - VAIKOM | | SVDS | BOTH | SH |
| 100 | PALA – THODUPUZHA ROAD | POINT1 | SVDS | BOTH | SH 8 |
| 101 | PALA – THODUPUZHA ROAD | POINT2 | SVDS | BOTH | SH 8 |
| 102 | PALA – THODUPUZHA ROAD | POINT3 | SVDS | BOTH | SH8 |
| 103 | PALA - PONKUNNAM | POINT1 | SVDS | BOTH | SH |

| | | | | | |
|-----|---------------------------------------|-----------------------|------|----------|------------|
| 104 | PALA -PONKUNNAM | POINT2 | SVDS | BOTH | SH |
| 105 | CHANGANASERY- PONKUNNAM ROAD | POINT1 | SVDS | BOTH | NH183 |
| 106 | CHANGANASERY- PONKUNNAM ROAD | POINT2 | SVDS | BOTH | NH183 |
| 107 | CHANGANASERY- PONKUNNAM ROAD | POINT 3 | SVDS | BOTH | NH183 |
| 108 | KOTTAYAM - KUMILY ROAD | POINT1 | SVDS | BOTH | NH220 |
| 109 | KOTTAYAM - KUMILYRT ROAD *(SBR) | POINT2STATE BORDER | SVDS | BOT H | NH22 o |
| 110 | KOTTAYAM CHENGANNUR | MCROADPOINT1 | SVDS | BOTH | MC ROAD |
| 111 | KOTTAYAM CHENGANNUR | MCROADPOINT2 | SVDS | BOTH | MCRO AD |
| 112 | KOTTAYAM CHENGANNUR | MCROADPOINT3 | SVDS | BOTH | MC ROAD |
| 113 | KOTTAYAM CHENGANNUR | MC ROAD POINT4 | SVDS | BOTH | MC ROAD |
| 114 | ERATUPETTA -PEERUMEDU | POINT1 | SVDS | BOTH | SH14 |
| 115 | ERATUPETTA -PEERUMEDU | POINT2 | SVDS | BOTH | SH14 |
| 116 | VELLIKUALAM VAGAMON *(SBR) | STATE BORDER | SVDS | BOT H | SH 14 |
| 117 | KIDANGOR - PALA | | SVDS | BOTH | SH |
| 118 | KOTTAYAM MUVATUPUZHA | POINT1 | SVDS | BOTH | SH |
| 119 | KOTTAYAM MUVATUPUZHA | POINT2 | SVDS | BOTH | SH |
| 120 | KOTTAYAM MUVATUPUZHA | POINT 3 | SVDS | BOTH | SH |
| 121 | MOOVATUPUZHA THODUPUZHA | | SVDS | BOTH | SH |

| PATHANAMTHITTA DISTRICT | | | | | |
|-------------------------|-------------------------------|---------|------|------|----|
| 122 | PATHANAMTHITTA-THIRUVALLAROAD | POINT1 | SVDS | BOTH | SH |
| 123 | PATHANAMTHITTA-THIRUVALLAROAD | POINT2 | SVDS | BOTH | SH |
| 124 | PATHANAMTHITTA-THIRUVALLAROAD | POINT 3 | SVDS | BOTH | SH |
| 125 | MANIMALA CHANGANACHERY | | BOTH | SH | |
| 126 | MANIMALA CHANGANACHERY | POINT1 | SVDS | BOTH | SH |
| | | POINT2 | SVDC | BOTH | SH |
| | ALLAPPY DISTRICT | | | | |
| | | | | | |

| | | | | | | |
|-----|---------------------------|---|--|------|------|------|
| 127 | MAVELIKARA CHENGANNOOR | - | | SVDS | BOTH | SH14 |
|-----|---------------------------|---|--|------|------|------|

| | | | | | | |
|-----|-------------------------------|---|--------|------|------|-------|
| 128 | AMBALAPUZHA THIRUVALLAROAD | - | POINT1 | SVDS | BOTH | SH12 |
| 129 | AMBALAPUZHA THIRUVALLAROAD | - | POINT2 | SVDS | BOTH | SH12 |
| 130 | AMBALAPUZHA THIRUVALLAROAD | - | POINT3 | SVDS | BOTH | SH12 |
| 131 | KAYAMKULAM- PUNALLOOR | | POINT1 | SVDS | BOTH | SH3 |
| 132 | KAYAMKULAM- PUNALLOOR | | POINT2 | SVDS | BOTH | SH3 |
| 133 | KAYAMKULAM THIRUVALLA | - | POINT1 | SVDS | BOTH | SH6 |
| 134 | KAYAMKULAM THIRUVALLA | - | POINT2 | SVDS | BOTH | SH6 |
| 135 | ALLEPPY – COCHIN NH 47 | | POINT1 | SVDS | BOTH | NH47 |
| 136 | ALLEPPY – COCHIN NH 47 | | POINT2 | SVDS | BOTH | NH47 |
| 137 | ALLEPPY – COCHIN NH 47 | | POINT3 | SVDS | BOTH | NH 47 |
| 138 | KAYAMKULAM - ADOOR | | POINT1 | SVDS | BOTH | SH |
| 139 | KAYAMKULAM - ADOOR | | POINT2 | SVDS | BOTH | SH |

KOLLAM DISTRICT

| | | | | | | |
|-----|-------------------------------------|--|---------------------|-------------|-------------|-------------------|
| 140 | AYOOR-POOYAPALLY | | STRETCH | SVDS | BOTH | SH |
| 141 | PUNALUR-AYOOR | | POINT1 | SVDS | BOTH | SH48 |
| 142 | PUNALUR-AYOOR | | POINT2 | SVDS | BOTH | SH48 |
| 143 | KOLLAM -KUMILYROAD | | | SVDS | BOTH | NH183 A |
| 144 | THENMALA ARYANKAVU*(SBR) | | STATEBORDE R | SVDS | BOTH | NH 744 |
| 145 | KOLLAM – ALLAPPUZHA NH 47 | | POINT1 | SVDS | BOTH | NH 47 |
| 146 | KOLLAM – ALLAPPUZHA NH 47 | | POINT2 | SVDS | BOTH | NH 47 |
| 147 | KOLLAM – ALLAPPUZHA NH 47 | | POINT 3 | SVDS | BOTH | NH 47 |
| 148 | KOLLAM KOTARAKARA | | POINT1 | SVDS | BOTH | SH |
| 149 | KOLLAM KOTARAKARA | | POINT2 | SVDS | BOTH | SH |
| 150 | KOLLAM KOTARAKARA | | POINT 3 | SVDS | BOTH | SH |
| 151 | KOLLAM BYPASS | | POINT1 | SVDS | BOTH | NH |
| 152 | KOLLAM BYPASS | | POINT2 | SVDS | BOTH | NH |

THIRUVANANTHAPURAM DISTRICT

| | | | | | |
|-----|----------------------------------|---------|------|------|-------|
| 153 | KAZHAKOTAM – KOTTIYAM STRETCH | POINT1 | SVDS | BOTH | NH 47 |
| 154 | KAZHAKOTAM – KOTTIYAM STRETCH | POINT2 | SVDS | BOTH | NH 47 |
| 155 | KAZHAKOTAM – KOTTIYAM STRETCH | POINT 3 | SVDS | BOTH | NH 47 |
| 156 | KAZHAKOTAM – KOTTIYAM STRETCH | POINT 4 | SVDS | BOTH | NH 47 |
| 157 | KOVALAM - KAZHAKOTAM | POINT1 | SVDS | BOTH | NH 47 |

| | | | | | |
|-----|--|----------------|-------------|-------------|--------------|
| 158 | KOVALAM - KAZHAKOTAM | POINT2 | SVDS | BOTH | NH 47 |
| 159 | KOVALAM - KAZHAKOTAM | POINT 3 | SVDS | BOTH | NH 47 |
| 160 | KOVALAM - KAZHAKOTAM | POINT 4 | SVDS | BOTH | NH 47 |
| 161 | KOVALAM - KAZHAKOTAM | POINT 5 | SVDS | BOTH | NH 47 |
| 162 | THIRUVANANTHAPURAM EKM MCROAD | POINT1 | SVDS | BOTH | MC ROAD |
| 163 | THIRUVANANTHAPURAM EKM MCROAD | POINT2 | SVDS | BOTH | MC ROAD |
| 164 | THIRUVANANTHAPURAM EKM MCROAD | POINT 3 | SVDS | BOTH | MC ROAD |
| 165 | THIRUVANANTHAPURAM EKM MCROAD | POINT 4 | SVDS | BOTH | MC ROAD |
| 166 | THIRUVANANTHAPURAM KALIYAKAVILA | POINT1 | SVDS | BOTH | NH 66 |
| 167 | THIRUVANANTHAPURAM KALIYAKAVILA | POINT2 | SVDS | BOTH | NH 66 |
| 168 | THIRUVANANTHAPURAM KALIYAKAVILA | POINT 3 | SVDS | BOTH | NH 66 |
| 169 | THIRUVANANTHAPURAM KALIYAKAVILA | POINT 4 | SVDS | BOTH | NH 66 |
| 170 | THIRUVANANTHAPURAM – KALIYAKAVILA *(SBR) | POINT 5 | SVDS | BOTH | NH 66 |
| 171 | SANGUMMUKOM – CHAKAI | POINT1 | SVDS | BOTH | CITY ROAD |
| 172 | SANGUMMUKOM - CHAKKAI | POINT2 | SVDS | BOTH | CITY ROAD |
| 173 | VARKALA - KALLAMBALAM | | SVDS | BOTH | CITY ROAD |
| 174 | VARKALA PARIPPALLY | | SVDS | BOTH | CITY ROAD |
| 175 | VELLAYAMBALAM KOWDIYAR | | SVDS | BOTH | CITY ROAD |

SBR* - STATE *** BORDER ROAD**

All the spots are tentative and are likely to be changed based on Traffic density, Changes in Road Engineering, Local conditions etc.

- **More places, equipment's, technology can be added, based on local requirements and based on the changing circumstances.**

Annexure 6: SPECIAL INSTRUCTIONS TO THE CONTRACTORS/BIDDERS FOR THE E-SUBMISSION OF THE BIDS ONLINE THROUGH E- TENDER SITE

1. Bidder should do the registration in the tender site <http://etenders.kerala.gov.in> using the option available. Then the Digital Signature registration has to be done with the e- token, after logging into the site. The e-token may be obtained from one of the authorized Certifying Authorities such as NIC/SIFY/TCS /nCode.
2. Bidder then login to the site thro' giving user id / password chosen during registration.
3. The e-token that is registered should be used by the bidder and should not be misused by others.
4. The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under **My Documents** option and these can be selected as per tender requirements and then send along with bid documents during bid submission.
5. After downloading / getting the tender schedules, the Bidder should go thro' them carefully and then submit the documents as asked, otherwise, the bid will be rejected.
6. If there are any clarifications, this may be obtained online thro' the tender site, or thro' the contact details. Bidder should take into account of the corrigendum published before submitting the bids online.
7. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender schedule and they should be in PDF/xls/rar/dwf formats. If there is more than one document, they can be clubbed together.
8. Bidder should get ready the EMD as specified in the tender and the same should be paid online.
9. The bidder reads the terms & conditions and accepts the same to proceed further to submit the bids
10. The bidder has to submit the tender document online well in advance before the prescribed time to avoid any delay or problem during the submission process.
11. After the bid submission, the acknowledgement number, given by the e-tendering system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender.
12. The **Tender Inviting Authority (TIA)** will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders.
13. The bidder may submit the bid documents by online mode through the site (<http://etenders.kerala.gov.in>).

14. The tendering system will give a successful bid updation message after uploading all the bid documents submitted & then a bid summary will be shown with the bid no, date & time of submission of the bid with all other relevant details. The documents submitted by the bidders will be digitally signed using the token of the bidder and then submitted.
15. The bid summary has to be printed and kept as an acknowledgement as a token of the submission of the bid. The bid summary will act as a proof of bid submission for a tender floated and will also act as an entry point to participate in the bid opening date.
16. Bidder should log into the site well in advance for bid submission so that he submits the bid in time i.e on or before the bid submission end time. If there is any delay, due to other issues, bidder only is responsible.
17. The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected
18. The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.
19. All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission & not be viewable by any one until the time of bid opening. Overall, the submitted tender documents become readable only after the tender opening by the authorized individual.
20. The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.
21. The bidders are requested to submit the bids through online e-tendering system to the TIA well before the bid submission end date & time (as per Server System Clock).
22. The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) option in the browser.

Annexure 7

PRE CONTRACT INTEGRITY PACT

Between

Kerala Police and having its headquarters at State Police Headquarters, Vellayambalam, Thiruvananthapuram-695101 hereinafter referred to as "The Employer" which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns of the **First Part.**

And

M/s _____, a company/ firm/ individual (status of the company) constituted in accordance With the relevant law in the matter and having its registered office at _____ represented by Shri _____ hereinafter referred to as "The Bidder/Contractor" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns of the **Second Part.**

WHEREAS the Employer proposes to procure under laid down organizational procedures, contract/s for ----- (Name of the work/ goods/ services) and the Bidder/Contractor is willing to offer against NIT No.

NOW, THEREFORE,

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

Enabling the Employer to obtain the desired said (work/ goods/ services) at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling the Bidder(s)/Contractor(s) to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Employer will commit to prevent corruption, in any form, by its officials by following transparent procedures.

1.0 Commitments of the Employer

1.1 The Employer undertakes that no official of the Employer, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Bidder/Contractor, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2. The Employer will, during the pre-contract stage, treat all the Bidders/Contractors alike, and will provide to all the Bidders/Contractors the same information and will not provide any such information to any particular Bidder/Contractor which could afford an advantage to that particular Bidder/Contractor in comparison to other Bidders/Contractors.

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

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

2.0 Commitments of the Bidder(s)/Contractor(s)

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

- 2.1 The Bidder(s)/Contractor(s) will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 2.2 The Bidder/Contractor further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with Employer for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with Employer.
- 2.3 The Bidder(s)/Contractor(s) shall disclose the name and address of agents and representatives and Indian Bidder(s)/Contractor(s) shall disclose their foreign principals or associates.
- 2.4 The Bidder(s)/Contractor(s) shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract
- 2.5 The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the Employer or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 2.6 The Bidder/Contractor will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 2.7 The Bidder/Contractor will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 2.8 The Bidder/Contractor shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained in electronic data carrier. The Bidder/Contractor also undertakes to exercise due and adequate care lest any such information is divulged.

- 2.9 The Bidder(s)/Contractor(s) commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.10 The Bidder(s)/Contractor(s) shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 2.11 If the Bidder/Contractor or any employee of the Bidder/Contractor or any person acting on behalf of the Bidder/Contractor, either directly or indirectly, is a relative of any of the officers of the Employer, or alternatively, if any relative of an officer of the Employer has financial interest/stake in the Bidder(s)/Contractor(s) firm(excluding Public Ltd. Company listed on Stock Exchange), the same shall be disclosed by the Bidder/Contractor at the time of filling of tender.

The term 'relative' for this purpose would be as defined in Section 2(77) of the Companies Act 2013.

- 2.12 The Bidder(s)/Contractor(s) shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Employer.
- 2.13. The Bidder/supplier shall follow all rules and regulations of India.
- 2.14 The Bidder in its workplace shall also ensure to:
- Maximizing economic benefits for people in the host country, including affected communities. Economic benefits may include public revenues and non-revenue benefits such as capital contributions, income generation through the creation of employment and business opportunities, capacity building, technology transfers and infrastructure development.
 - Minimizing negative impacts on people's lives, for instance linked to land takings or resource degradation, and ensuring that economic benefits are distributed equitably and used for poverty reduction and broad-based development.
 - Minimizing environmental damage from project implementation and promoting investments in more environmentally friendly sectors such as renewable energy.

3.0 Previous Transgression

3.1 The Bidder(s)/Contractor(s) declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect on any corrupt practices envisaged hereunder or with any Public Sector Enterprise / Government Department in India and in (*Employer's country*).

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

4.0 Earnest Money (Security Deposit)

The provision regarding Earnest Money/Security Deposit as detailed in the Notice Inviting Tender (NIT) and Instruction to Bidders (ITB) section of the Bid Document is to be referred.

5.0 Sanctions for Violations

5.1 Any breach of the aforesaid provisions by the Bidder/Contractor or any one employed by it or acting on its behalf shall entitle the Employer to take action as per the procedure mentioned in the "**Guidelines on Banning of Business Dealings**" attached as **Annex-A** and initiate all or any one of the following actions, wherever required:-

- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the Bidder/Contractor. However, the proceedings with the other Bidder(s)/Contractor(s) would continue.
- (ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is Signed) shall stand forfeited either fully or partially, as decided by the Employer and the Employer shall not be required to assign any reason thereof.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the Contractor. The Bidder/Contractor shall be liable to pay compensation for any loss or damage to the Employer resulting from such cancellation/rescission and the Employer shall be entitled to deduct the amount so payable from the money(s) due to the Bidder/Contractor.
- (iv) To encash the Bank guarantee, in order to recover the dues if any by the Employer, along with interest as per the provision of contract.
- (v) To debar the Bidder/Contractor from participating in future bidding processes of Employer, as per provisions of "Guidelines on Banning of Business Dealings" (**Annex-A**), which may be further extended at the discretion of the Employer.
- (vi) To recover all sums paid in violation of this Pact by Bidder(s)/Contractor(s) to any middleman or agent or broker with a view to securing the contract.
- (vii) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the Employer with the Bidder/ Contractor, the same shall not be opened/operated.
- (viii) Forfeiture of Performance Security in case of a decision by the Employer to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.2 The Employer will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (viii) of this Pact also on the Commission by the Bidder/Contractor or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder/Contractor), of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption in Employer's country.

5.3 The Contractor/Vendor should ensure that equipments installed are tamper free in performance. These equipments will be inspected by the officials periodically to ensure that parameters of checking speed and other violations should not be tampered. Necessary calibrations of these equipments should be done by the Contractor periodically. **There will be a penalty at the rate of 10% of fine imposed if any such planned irregularities are committed by the Contractor. Such penalty will be decided by a Committee appointed for the purpose by the State Police chief.**

5.4 The decision of the Employer to the effect that a breach of the provisions of this Pact has been committed by the Bidder / Contractor shall be final and conclusive on the Bidder / Contractor. However, the Bidder/Contractor can approach the Independent External Monitor(s) appointed for the purposes of this Pact.

6.0 Independent External Monitor(s)

- 6.1** The Employer has appointed Independent External Monitor(s) (hereinafter referred to as Monitors) for this Pact.
- 6.2** The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 6.3** The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 6.4** Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings. The right to access records should only be limited to the extent absolutely necessary to investigate the issue related to the subject tender/contract.
- 6.5** As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform CMD/CEO/MD of Employer and request Employer to discontinue or take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 6.6** The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction, to all Project documentation of the Employer including that provided by the Bidder/Contractor. The Bidder/Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractor(s). The Monitor shall be under contractual obligation to treat the information and documents of the Bidder/Contractor/Subcontractor(s) with confidentiality.
- 6.7** The Employer will provide to the Monitor sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings as and when required.
- 6.8** The Monitor will submit a written report to the CMD/CEO/MD of Employer within 10 days from the date of reference or intimation to him by the Employer/Bidder and should the occasion arise, submit proposals for correcting problematic situations.
- 6.9** The word 'Monitor' would include both singular and plural.

7.0 Facilitation of Investigation

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

8.0 Law and Place of Jurisdiction

This Pact is subject to (Employer's Country) Law. The place of performance and jurisdiction is the Registered Office of the Employer. The arbitration clause provided in the tender document/contract shall not be applicable for any issue/dispute arising under Integrity Pact.

9.0 Other Legal Actions

- 9.1** The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.
- 9.2** Changes and supplements as well as termination notice need to be made in writing.
- 9.3** If the Contractor is a partnership or a consortium or a joint venture, this pact must be signed by all partners of the consortium/joint venture.

10.0 Validity

10.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the Employer and the Bidder/Contractor/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract or six months from the date of opening of price bids, whichever is earlier.

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

11.0 The Parties hereby sign this Integrity Pact at _____ on _____

Employer

Name of the Officer Designation

Place-----

Date-----

Witness1.

(Name and address)

2.

(Name and address)

Bidder

(Authorised Person) (Name of the Person) Designation

Place-----

Date-----

Witness 1.

(Name and address)

2.

(Name and address)

ALL BIDDERS WHO PARTICIPATES IN E-TENDER SHOULD PRODUCE HARD COPIES OF ALL RELEVANT DOCUMENTS AND UPLOADED DOCUMENTS RELATED TO E TENDER AT THE TIME OF TECHNICAL EVALUATION, WITHOUT FAIL.

Sd/-

**ADDITIONAL ASSISTANT INSPECTOR GENERAL OF POLICE
FOR DIRECTOR GENERAL OF POLICE &
STATE POLICE CHIEF, KERALA**