# Indian Highway Management Company Limited (IHMCL)

Limited RFP for Selection of System Integrator to Provide O&M services of ETC System at Toll Plazas on National Highways

Tender No. IHMCL/LTE-RFP/ O&M-ETC/2021/03
Indian Highways Management Company Limited (IHMCL)
Regd Office: NHAI HQ, G5&6, Sector-10, Dwarka, New Delhi-110075

(CIN- U74140DL2012PLC246662)

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#### **DISCLAIMER**

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to prospective Bidder(s), whether verbally or in documentary or any other form by or on behalf of IHMCL or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP does not constitute an Agreement between IHMCL or prospective Bidders or any other Party and is neither an offer nor invitation by IHMCL 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 preparation of Technical and Financial qualification and making their financial offers (the "Bids") pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by IHMCL in relation to the project

The assumptions, assessments, statements and information contained in the RFP, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. IHMCL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

IHMCL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law whether written or otherwise, statute, rules or regulations or tort, principles of restitution or unjust enrichmentor 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, completeness or reliability 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 for participation in this Bid.

IHMCL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. IHMCL may in its absolute discretion, but without being under any obligation to do so, update,

amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this RFP does not imply that IHMCL is bound to select a Bidder or to award the project to the Successful Bidder

#### **PART-I: NOTICE INVITING TENDER**

1.1 Bids are invited for Selection of System Integrator to Provide O&M services of ETC System at Toll Plazas (refer Annexure-1) on National Highways. It is in continuation to RFQ with Tender no. IHMCL/HETC/2020/01 released on 08.01.2020 by Indian Highways Management Company Limited (IHMCL) for eligible Bidders who have been empaneled by IHMCL via Tender no. IHMCL/HETC/2020/01, dated 08.01.2020.

1.2 The Terms and Condtions or any other information unless specifically mentioned in this Limited RFP ref:- IHMCL/LTE-RFP/ O&M-ETC/2021/03 published on 07-09-2021 shall be considered of previous RFQ ref IHMCL/HETC/2020/01 published dated 08-01-2020.

1.3 The complete Bidding documents can be viewed / downloaded from e-tender portal i.e. https://etenders.gov.in. The Bids shall be liable for summarily rejection unless accompanied by the requisite documents as specified in this RFP. No Bids submitted after the closing date/time shall be considered.

1.4 All clarifications/ corrigendam will be published only on the e-procurement portal https://etenders.gov.in and IHMCL website www.ihmcl.co.in.

1.5 IHMCL reserves the right to accept or reject any or all bids received before signing of Contract Agreement without thereby incurring any financial or other liability to the affected Bidders.

#### Address for communication:

Indian Highways Management Co. Ltd. (IHMCL)

1st Floor, NHAI Head Quarter, G-5 & 6

Sector 10, Dwarka

New Delhi 110 075

Phone: +91-11- 28042710;

Email: tenders@ihmcl.com;

Website: www.ihmcl.co.in

### **PART II: DEFINITIONS**

In this document, the following terms shall have respective meanings as indicated:

- "Applicable Law" means the laws, rules or regulations and any other instruments, \_having the force of law in Republic of India, as in force from time to time.
- "Authorized Representative" means any person/agency authorized by IHMCL.
- "Bidder" means, a company which participates in the Bid process and submits its proposal pursuant to this RFP.
- "Commencement date" means the date upon which the Service Provider receives the notice to commence the work issued by IHMCL.
- "Contract" shall mean & include RFQ, RFP, Notice for Inviting Tender (NIT), the tender documents, Letter of award and Letter of acceptance thereof and the formal agreement, to be executed between IHMCL and the Service Provider together with the complete documents referred to therein including the conditions with appendices and any special conditions, the specifications, designs, drawings, bill of quantities with rates and amounts. All these documents taken together shall be deemed to form one Contract and shall be complementary to each other
- "IHMCL" means Indian Highways Management Company Ltd.
- "Law" or "Legislation" shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Government of India or State Government or regulatory authority.
- "Letter of Award (LOA)" means the issue of a signed letter by IHMCL to Sucsessful Bidder conveying its intention to accept the offer of Successful Bidder and awarding the work mentioning the total Contract Value.
- "Local Currency" means the Indian Rupees
- "MoRTH" means Ministry of Road Transport and Highways
- "NHAI" means National Highways Authority of India ...
- "Party" shall mean IHMCL or Bidder individually and "Parties" shall mean IHMCL and Bidder collectively.
- "Personnel" means persons hired by the Service Provider as employees and assigned to the performance of the Services or any part thereof.
- "RFP" shall mean this Request for Proposal dated 07-09-2021, including the written clarifications & Corrigendum/Addendum issued by IHMCL in respect of the RFP from time to time.
- "Services" means requirements defined in this RFP including all additional services associated thereto to be delivered by the Successful Bidder.

"Successful Bidder" means the Bidder, who, after the complete evaluation process, has been issued the Letter of Award by IHMCL

"Service Provider" means the Successful Bidder who has executed the contract with IHMCL and has complied with other requirements as specified in this RFP to the satisfaction of IHMCL

"Operations and Maintenance (O&M)" means operations and maintenance typically includes the day-to-day activities necessary for the keeping equipment and its allied systems to perform their intended function.

Any other term(s), not defined herein above but defined elsewhere in this RFP shall have the meaning(s) ascribed to such term(s) therein and shall be deemed to have been included in this Section.

# PART-III: SCHEDULE OF THE TENDER (KEY DATES)

SI. No.	Event Description	Date	
3.1	Invitation of RFP	07-09-2021	
3.2	Bid Due Date (Online Submission)	16.09.2021 (Upto 12:00 Hrs IST)	
3.3	Opening of documents submitted online (like Bid form, PoA, Undertaking & Bid decalaration form) and financial Bids	17.09.2021 (Upto 15:00 Hrs IST)	
3.4	Issuance of Letter of Award (LoA)	Within 05 working days of Financial Opening	
3.5	Submission of original documents like PoA and Undertaking,(refer Clause 8.2 and 8.3)	Within 03 working days of LoA issuance	
3.6	Submission of Performance Security	Within 07 working days of LoA issuance	
3.7	Validity of Bid	180 days from Bid Due Date	
3.8	Signing of Contract Agreement	Within 10 calendar days of LoA Issuance	
3.9	Takeover of toll plazas to start operations using existing ETC system which includes repair/replacement of existing faulty/damaged equipment and completion of installation & commissioning work of additional equipment	Within 30 Calender days from Issuance of LoA	

#### **PART-IV: INSTRUCTIONS TO BIDDERS**

# 4.1 Eligibility to Bid

Only the bidders who have been empanelled via Tender no. IHMCL/HETC/2020/01 released on 08.01.2020 are eligible to participate in the Bid. Bidders are required to submit Letter of Empanelment as proof with the application (Letter issued from IHMCL of empanelment, dated 18.02.2020). Empanelled Bidders are as mentioned below: -

S.No.	Company Name	
1	M/s PATH India Ltd.	
2	M/s Vara Infrovate Pvt Ltd and M/s Essae Digitronics Pvt Ltd	
3	M/s Vaaan Infra Pvt. Ltd.	
4	M/s D.P. Jain & Co. Infrastructure Pvt. Ltd	
5	M/s BISOTECH India Pvt. Ltd. & M/s Radiant X-Ways Logistics Pvt Ltd	
6	M/s Rajdeep Info Techno Pvt. Ltd. & M/s Rajdeep Buildcon Pvt. Ltd.	
7	M/s Metro Infrasys Pvt Ltd	
8	M/s Arya Omnitalk wireless solution Pvt. Ltd.	
9	M/s Comvision India Pvt Ltd & M/s CBM Industrie Pvt Ltd	
10	M/s Bhari Infra & M/s V.R Techniche Consultants Pvt Ltd	

#### 4.2 Content Of RFP

- a) The RFP should be read in conjunction with any addenda or clarifications issued subsequent to publication of RFP.
- b) Bidders are advised to study the RFP 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 RFP with full understanding of its implications. Bids not complying with all the stipulations and requirements as set forth in this RFP are liable to be rejected at the sole discretion of IHMCL. Failure to furnish all information required in the RFP or submission of a bid not substantially responsive to the RFP in all respects will be at the Bidder's risk and may result in the rejection of the bid.

#### 4.3 Cost Of Bidding

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

# 4.4 Amendment Of RFP

At any time prior to the closure of time for submission of bids, IHMCL, for any reason, whether at its own initiative or in response to the clarifications requested by prospective Bidders may

modify the RFP by issuing amendment(s) or Corrigendum.

Any Corrigendum /Addendum issued as aforesaid shall be part of the RFP and shall be displayed /communicated on e-tender portal and <a href="https://www.ihmcl.co.in">www.ihmcl.co.in</a>. No separate information will be passed to any Bidder in this regard.

# 4.5 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 IHMCL shall be written in English language only.

#### 4.6 Bid Validity

- a) Bids shall remain valid for a period of 180 days from the last date of Bid due date. Any Bid valid for a shorter period shall be rejected as non-responsive. IHMCL has sole discretion to extend the period beyond 180 days.
- b) In exceptional circumstances, IHMCL may solicit Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing; however, no modification to such bid shall be permitted.

# 4.7 Bid Security

The Bidder, as part of bid, shall submit Bid Security Declaration Form as per format provided in Clause 8.5.

# 4.8 No alternative proposals By Bidders

Bidder shall submit only one bid/offer for this RFP that fully complies with the requirement of the RFP including conditions of Contract. Conditional offer or alternate offer will not be considered further in the process of tender evaluation.

#### 4.9 Deadline For Submission Of Bid

- a) Complete Bid documents as specified in the RFP must be received as specified on or before the date and time specified under "Key Dates". In the event of the specified date for the submission of Bids being declared a Non-working day for IHMCL, the Bids will be received up to the specified time on the next working day.
- b) IHMCL may, at its discretion, extend the deadline for submission of Bids by issuing an amendment in which case all rights and obligations of IHMCL and the Bidders previously subject to the original deadline will thereafter be subject to the deadline extended.
- c) Offer by fax / e-mail will not be accepted and shall be treated as void ab-initio.

#### 4.10 Late Submission

Bids received after the deadline shall not be considered and shall be rejected and returned to the Bidder unopened. No representation or communication would be entertained in this regard from any Bidder.

#### 4.11 Modification And Withdrawal Of Bids

- a) Bidders may modify or withdraw their Bid before the deadline.
- b) The Bidder may modify, substitute or withdraw its e- Bid after submission prior to the Bid Due Date. No Bid can be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date & Time.
- c) For modification of e-Bid, Bidder has to detach its old Bid from e-Tender portal and upload / resubmit digitally signed modified Bid. For withdrawal of Bid, a Bidder has to click on withdrawal icon at e-Tender portal and can withdraw its e-Bid. Before withdrawal of a Bid, it may specifically be noted that after withdrawal of a Bid for any reason, Bidder cannot re-submit e-Bid again.

# 4.12 Opening and Evaluation of Bids

### a) Opening of Bids

- a. The documents submitted on e-tender portal such as Bid Form, PoA (in case of re-submission) & Undertaking (in case of re-submission), Bid Security Decalaration form and Financial Bids will be opened at G 5 & 6, Ground Floor, NHAI HQ Building, Sector -10,Dwarka,New Delhi-110075 as per schedule defined under "Key Dates".
- b. Bidder's authorized representative may attend the opening, and those who are present shall sign the Attendance Sheet evidencing their attendance.
- c. The Bidder's names, Bid modifications or withdrawals and such other details as IHMCL at its discretion, may consider appropriate, will be announced at the time of opening.

#### b) Evaluation of Bids (Single Stage):-

#### **Phase-1:- Test of responsiveness**

Submission status of following documents shall be checked before consideration of financial bids:

- i. Bid Security Decalaration form
- ii. Bid form
- iii. PoA (To be submitted in case of any change in the one submitted during empanelment)
- iv. Undertaking (To be submitted in case of any change in the one submitted during empanelment)

As part of Bid evaluation process, IHMCL shall first determine whether each Bid is responsive to the requirements of this RFP. A bid shall be considered responsive only if:

- i. Requisite Documents and the Financial Bid are received as per the format provided under this RFP:
- ii. Bid is accompanied by Bid Security Decalaration Form as specified in this RFP;

- iii. Bid is accompanied by Power of Attorney and Undertaking as specified under this RFP;
- iv. Bid contains all the information as required (complete in all respects);
- v. Bid does not contain any condition or qualification;
- vi. The total amount indicated in the Financial Proposal shall be without any condition attached or subject to any assumption, and shall be final and binding.
- vii. If equipment name is mentioned but quantity is not mentioned, bidder has to provide cost for the equipments.
- viii. it is not non-responsive in terms hereof

IHMCL reserves the right to reject any bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by IHMCL in respect thereof. Any non-responsive bid shall not be considered for financial evaluation.

If during evaluation, any of such documents are not submitted or not submitted in prescribed format, then the Financial bids shall be summarily rejected at sole discretion of IHMCL.

#### Phase-2:- Financial Bids evaluation

The Financial Bids of ONLY the Bidders who are declared as qualified in Phase 1 will be evaluated. The Financial Bid Evaluation will be based on the "Total Price" quoted by the bidder which would be the total payouts inclusive of all levies and taxes like Excise Duty, Custom Duty, packing, forwarding, freight and insurance, Octroi/Entry Tax, etc. or as applicable taxec, but exclusive of GST.

If there is a discrepancy between the unit price & the total price, the unit price shall prevail and IHMCL shall correct the total price. If there is a discrepancy between words & figures, the amount in words shall prevail. If the bidder does not accept the correction of errors, its Bid shall be rejected and action shall be initiated as mentioned in Bid Security Decalarion form.

The Evaluation Committee shall determine if the financial bid is complete and without computational errors. The Bid with the lowest price will be selected.

#### 4.13 Imbalanced Bid

If the Bid of the Successful Bidder is seriously imbalanced in relation to IHMCL's estimate of the cost of work to be performed under the Contract, IHMCL 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, IHMCL may require that the amount of the Performance Security set forth in the RFP be increased and an additional Performance Security may be obtained at the expense of the Successful Bidder to a level sufficient to protect IHMCL 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 equal to the seriously imbalanced amount, which shall be final, binding and conclusive on the Bidder.

#### 4.14 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 IHMCL's processing of Bids or award decisions may result in the rejection of his Bid.

#### 4.15 Award Criteria

IHMCL will award the Contract to the Bidder whose Bid has been determined to be responsive in terms of this RFP and the Bid price has been found to be lowest exclusive of taxes, duties, cess or other statutory levies.

# 4.16 IHMCL 'S Right To Reject Any Or All Bids

Nothwithstanding anything contained herein, IHMCL reserves the right to reject any Bid, and to annul the bidding process and reject all Bids at any time before signing of Contract Agreement, 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.

#### 4.17 Notification Of Award Of Contract

- a) Prior to the expiration of the Bid validity, IHMCL will notify the Successful Bidder that his Bid has been accepted. IHMCL will mention the contract value in the LOA. IHMCL will issue notice to commence the work after issuance of LOA.
- b) The Contract will incorporate all agreements between IHMCL and the Successful Bidder. It will be signed by IHMCL and the Successful Bidder after the performance security is furnished by the Sucsessful Bidder.
- c) Upon furnishing of the Performance Security by the Successful Bidder, IHMCL will promptly notify the other Bidders that their Bids have been unsuccessful.

#### 4.18 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) Information relating to the examination, clarification, evaluation and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising IHMCL in relation to, or matters arising out of, or

concerning the bidding process. IHMCL will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. IHMCL may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or as may be required by law or in connection with any legal process or such information which would be available in public domain.

- c) At all times during the performance of the Services, the Bidder shall abide by all applicable IHMCL ,NHAI/ MoRTH's 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.
- d) The Successful Bidder should not disclose to any other party and keep confidential the terms and conditions of this Contract, any amendment hereof, and any Attachment or Annexure hereof.
- e) The obligations of confidentiality under this section shall survive termination of the Contract.
- f) Bidders shall not be under a declaration of ineligibility or blacklisting 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.

# **4.19 Signing of Contract**

IHMCL shall intimate the Successful Bidder for signing of Contract Agreement upon submission of Performance Security as per schedule defined in RFP.

#### 4.20 Performance Security

- a) Within 07 (Seven) days of the receipt of the Letter of Award, the Successful Bidder shall submit a Performance Security amount in form of Demand Draft or an irrevocable and unconditional Bank guarantee issued in the name of IHMCL for an amount equal to 3% of the Total Bid Price (value of awarded work), issued by a Bank described under this RFP which shall be verified at any branch located in the National Capital territory of Delhi and through SFMS mode as performance security for the due performance of its obligations under the Contract.
- b) The aforesaid Bank Guarantee shall be as per the format given in format provided in this RFP and will be valid for a period of 180 days after the expiry of Contract period and shall also have a minimum claim period of 1 year.
- c) In case of Contract Period extension after 02 years of Contract Signing, successful bidder shall furnish the extended PBG.

# 4.21 Bank Guarantee (BG)

- a) The Bank Guarantee in the name of IHMCL issued by the following banks would only be accepted:
  - i. Any Nationalized Bank
  - ii. Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 500 crore as per the latest Audited Balance Sheet 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
  - iii. A Foreign Bank (issued by a branch outside India) with a counter guarantee from any Indian Nationalized Bank.
  - iv. Export Import Bank of India
- b) The acceptance of the Bank Guarantees shall also be subject to the following conditions:
  - i. The capital adequacy of the Bank shall not be less than the norms prescribed by RBI
  - ii. The bank guarantee issued by a Cooperative Bank shall not be accepted.

# 4.22 Corrupt Or Fraudulent Practices

IHMCL will reject a proposal for award and appropriate the Performance Security, as the case may be, if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

IHMCL will declare the Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract by IHMCL if it at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for the contract, or during execution.

"Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official or employee of IHMCL in the procurement process or in Contract execution.

"Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of IHMCL 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 IHMCL of the benefits of free and open competition.

#### 4.23 Miscellaneous

- a) The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process.
- b) IHMCL, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to
  - i. suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding

Process or modify the dates or other terms and conditions relating thereto;

- ii. consult with any Bidder in order to receive clarification or further information;
- iii. retain any information and/ or evidence submitted to IHMCL by, on behalf of, and/ or in relation to any Bidder; and/ or
- iv. independently verify, disqualify, reject and/ or accept any or all submissions or other information and/ or evidence submitted by or on behalf of any Bidder.
- c) It shall be deemed that by submitting the Bid, the Bidder agrees and releases IHMCL, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the Bidding Process and waives, to the fullest extent permitted by applicable laws, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- d) If the Bidder has committed a transgression under this RFP such as to put its reliability or credibility into question, IHMCL shall be entitled to blacklist and debar such Bidder for any future tenders/contract award process in its sole and absolute discretion.

#### PART-V: PREPARATION AND SUBMISSION OF APPLICATION

- **5.1** Bid must be submitted online only at <a href="https://etenders.gov.in">https://etenders.gov.in</a> during the validity of registration with the e-Tender Portal being managed by National Informatics Centre (NIC), i.e. <a href="https://etenders.gov.in">https://etenders.gov.in</a>. To participate in e-tender, the intending participants shall register themselves in the website of URL.
- **5.2** Bidders/Applicants are advised to go through the FAQs, guidelines, instructions, manuals, policies, system setting procedures etc. as provided in the e-Procurement portal.
- **5.3** Tender form and relevant documents will not be sold /issued manually from offices.
- **5.4** Bidders are required to upload scanned copies of Bid Security Decalaration Form, Bid Form, Power of Attorney(In case of re-submission), Undertaking(In case of re-submission) and other relevant document on the e-Tender portal.
- 5.5 The date and time for online submission as mentioned in the section RFP document shall be strictly followed in all cases. The bidder/Applicants should ensure that their tender is submitted online before the expiry of the scheduled date and time. No delay on account of any cause will be entertained. Tender(s) not submitted online will not be entertained.
- **5.6** If for any reason, any interested bidder fails to complete any online stages during the complete tender cycle, IHMCL shall not be responsible for that and any grievance regarding that shall not be entertained.

#### **PART VI-Terms of Reference**

# 6.1 Scope of Work

The scope of work as specified in PART V of RFQ Tender No. IHMCL/HETC/2020/01, dated 08.01.2020 shall remain same. However, following additional activites are added under the scope of Service Provider: -

- a) Service Provider shall take over all Available<sup>1</sup> ETC equipment on As-Is basis at the allocated toll plazas and carryout proactive and reactive maintenance, repair and replacement of defective components (IT and Non-IT/ Hardware and Software), or replacement as required to maintain the SLAs in the RFP throughout the Contract Period. The cost for repair and replacement of existing ETC equipment shall be borne by the Service Provider and shall be deemed to be factored in the quoted value by the Service Provider. The list of existing ETC equipment at the fee plazas is as per Annexure-2.
- b) The equipment which are **Not Available** <sup>2</sup>at the fee plazas (as mentioned in the Annexure-2) shall be supplied,installed and commissioned by Service Provider as per recent L1 rates discovered by IHMCL mentioned in Annexure-3.
- c) Any replacement/new supply of equipment by Service Provider shall be as per equipment Specification mentioned in RFQ Tender No. IHMCL/HETC/2020/01, dated 08.01.2020.
- d) Service Provider shall ensure to start operation & maintenance of ETC system at fee plazas with their own ETC software within 30 days from issuane of Letter of Award which includes repair/replacement of existing faulty/damaged equipment and provision for additional equipment which are not available at the fee plazas. The Operation & Maintenance services shall not be considered to be started unless all ETC equipment (as mentioned in Annexure-2) are found to be functional after takeover of fee plaza. The List of toll plazas is as per Annexure-1.
- e) The O&M services shall be considered to be started upon completion of following processes at the fee plazas: -
  - Smooth roll over of ETC system at all Fee Plazas (confirmation from Acquirer Banks/NPCI required)
  - Repair/replacement of all faulty/damaged equipment (refer Annexure-2) as handed over by previous System integrator (To be verified by IHMCL/representative from PIU))

<sup>1</sup> Available means equipment (functional/Faulty/Damaged) which are available at the fee plaza as per status mentioned in Annexure-2

<sup>2</sup> Not Available means equipment which are not available at the fee plaza as per status mentioned in Annexure-2.

 Installation & commission work of additional equipmentwhich are not available at the fee plazas as per status mentioned in Annexure-2(To be verified by IHMCL/representative from PIU)

Upon completion of above mentioned processes, Service Provider shall notify IHMCL to verify the same. Upon Verification if all equipment are found to be funcitonal, IHMCL shall consider the O&M start date for that particular fee plaza as date of notification received from Service Provider. The O&M services shall not be treated as started unless above mentioned processes are completed and informed by Service Provider.

- f) Service Provider shall ensure to keep a proper inventory of the ETC infrastructure installed at fee plazas throughout the Contract period.
- g) Post Hand Over Take Over process of ETC system at Fee plazas, the service provider shall be fully responsible for the safety of ETC equipment. Any equipment gets non-functional after certification due to any reason whatsoever, excluding scenarios covered under Force Majeure then Successful bidder shall replace/repair as per SLA. The Service Provider should keep spare items of critical ETC equipment such as RFID Reader, Boom Barrier, AVCC system, etc. for quicker turn around time
- h) Ongoing maintenance, repair and replacement of all hardware, software, peripherals and sub-components of all BOQ items shall be the responsibility of Service Provider without any financial implication to IHMCLIHMCL. Any ETC hardware item shall be replaced within SLA period as defined.
- i) The Service Provider shall provide 03 Site Engineers (03 shifts) at each fee plazas to ensure 24\*7 onsite support. The site engineer shall be at least Graduate or Diploma in Engineering, preferably in Electrical/Electronic/IT/Computer Science or equivalent.
- j) The Service Provider shall adhere to the maintenance of ETC & TMS Equipment, Periodic Preventive Maintenance of equipment, Timely Corrective Maintenance, Software Maintenance, Remote Software support for the ETC & Toll System.
- k) Service Provider shall be responsible for repair/ replacement of equipment as per SLA for the equipment which get faulty due to reasons like Short Circuit, Thudering/Lightening and Voltage Fluctuation throughout the Contract Period. Service Provider shall take all preventive measures to upkeep the equipment.
- I) Service Provider shall be responsible for providing Pest Control services at the toll plaza to prevent equipment for getting faulty. Service Provider shall be responsible for repair/ replacement of equipment within the defined SLA which have got faulty due to cable/equipment damaged by Rodent. The cost of the same is the part of Total O&M Price.

- m) The Service Provider shall take prior approval from respective PIU/IHMCL before updating any version of Lane / Plaza application, for which, a software modification request shall be submitted to PIU/ IHMCL for seeking approval.
- n) The Service Provider shall take adequate measures to protect ETC system from any Malware/Ransomware attack at fee plazas.
- The Service Provider shall provide license-based software/application like Operating System, database, Antivirus etc. The same will be verified during Site Acceptance Test. License shall be on the name of IHMCL
- p) The Service Provider shall ensure to provide hardware firewall device to protect against Malware entering the network.
- q) Service Provider shall provide full support in plaza handover to new Service Provider engaged by IHMCL at the allocated toll plazas during the O&M period. The Servive Provider shall be involved in transition process till toll plaza take over by new Service Provider.
- r) Service Provider shall ensure to perform the repair/replacement of exisiting fautly/damaged equipment as per specification mentioned in RFQ Tender No. IHMCL/HETC/2020/01, dated 08.01.2020 and in this tender.
- s) The Service Provider shall ensure to upkeep the exisiting equipment and newly delivered equipment through out the Contract period. Any equipment which gets damaged/faulty due to any reason except case of force majeure should be repaired/replaced by service provider on immediate basis in order to maintain the SLA defined in the RFP.
- t) The Service Provider shall be responsible for implementation of ICD 2.5 at all allocated toll plazas which includes provision of all certificates like SSL, firewall etc. The Service Provider shall ensure to complete the ICD 2.5 implementation work within 10 days from takeover of fee plazas for providing O&M services.
- u) Service Provider shall provide full support in plaza handover to new Service Provider as and when in future engaged by IHMCL at the allocated toll plazas during the O&M period. The Servive Provider shall be involved in transition process till toll plaza take over by new Service Provider.
- v) In addition to the internet with static IP (02 Qty) as mentioned in the Annexure-1, Service Provider shall ensure to provide internet connectivity through dongle device as a backup solution and cost of the same shall be the part of quarterly O&M charges.
- w) Service Provider shall ensure to provide requisite support in sharing real time status of equipment for all critical equipment like RFID reader, AVCC, TLCC, LPIC, ICS, ETC Server

- and internet connectivity of all NH fee plazas with any authorised agency engaged by IHMCL/NHAI.
- x) Service Provider shall provide data feed for all fee plazas to the central Toll Monitoring & Control Centre (TMCC) at IHMCL HQ/IHMCL for monitoring and remote viewing of all fee plazas.
- y) Service Provider shall ensure to provide requiste support in integration of WIM and SWB system(provided by other agency) with their own system.

#### **6.2 COMPENSATION**

In case of any descoping of toll plaza, IHMCL shall pay the remaining capex cost of additional equipment (for equipment "Not available" at the fee plaza during take over or as per details mentioned in Annexure-2) provided by Service Provider. No compensation shall be given for unused quarterly O&M services.

#### **6.3 PAYMENT TERMS**

- a) Payments will be made in Indian Rupees only
- b) Quarterly O&M Services
  - i. IHMCL shall release the payment on quarterly basis for O&M services provided by the Service Provider.
  - ii. Service Provider shall submit the following reports with IHMCL to claim for Quarterely O&M payment
    - Monthly Preventive Maintenance report
    - Equipment Status Report(Daily)
    - Equipment repair/replacement report for the claimed quarter( Daily)
    - Monthly Lane Wise Equipment Downtime Report(System Generated)
    - Monthly Lane Wise AVC Accuracy Report (System Generated)
    - Monthly Lane Wise ETC and Non-FASTag traffic and Revenue report(System Generated)
    - Monthly Attendance Record of Site Engineers (Duly verified by respective Toll Operating Agency)
- c) Additional Equipment(For equipment which are Not available at the fee plaza as per status mentioned in Annexure-2)

Payment Milestones				
Sr. No.	Milestone Description	Payment Percentage		
Milestone 1.	Upon delivery of equipment at site location & successful installation and integration	60%		
Milestone 2.	Installation and Commissioning	40%		

#### In Milestone-1:-

- (i) List of BOQ items supplied should be certified by IHMCL/ PIU before submission of invoices to IHMCL. Intimation to IHMCL on delivery of BOQ items.
- (ii) No payment shall be released for partial delivery of additional equipment

#### In Milestone 2: -

- Installation and Commissioning work shall be certified by concerned PIU/IHMCL before submission of invoices to IHMCL.
- d) Payment may be claimed for any particular site, on achievement of above said milestones.
- e) All payments shall be made subject to adjustment of applicable penalties.
- f) All Payments will be processed within 60 days of submission of undisputed invoice.

#### 6.4 PRICES

- a) GST as applicable, which will be levied on the goods and services invoiced by the Service Provider to IHMCL, will be reimbursed on actual basis.
- b) IHMCL reserves the right to ask the Service Provider to submit proof of payment against any of the taxes, duties, levies indicated.
- c) All payments shall be made subject to adjustment of applicable damages.
- d) No amount or cost shall be payable for holding discussion, as considered necessary by IHMCL, for any purpose with IHMCL's Officials at IHMCL's Head Office or elsewhere, prior, during or after the conduct of an assignment.
  - Prices quoted by the bidder shall be excluding GST and fixed for the entire Contract period.

#### 6.5 ASSIGNMENT TIMELINES

The Service Provider shall ensure to start the Operation & Maintenance activity (Software and Hardware) within 30 days of issuance of Letter of Award(LoA) at all allocated toll plazas which includes repair/replacement of existing faulty/damaged equipment and completion of installation & commissioning work of additional equipment which are not available the the fee plazas as per Annexure-2.

# 6.6 SERVICE LEVEL AGREEMENTS(SLA)

a) The SLA as specified in Clause 5.7 of RFQ Tender No. IHMCL/HETC/2020/01, dated 08.01.2020 shall remain same. However, following SLA parameters are also added in scope of Service Provider: -

#### i. Delay in Takeover of Fee Plaza: -

- The Service Provider shall start operation and maintenance of ETC system at all allocated toll plazas within 30 days of Issuance of LoA including repair/replacement of faulty/damaged exisiting equipment and installation, commissioning & integration of additional equipment which are not available at the fee plaza as per Annexure-2.
- Failure of the Service Provider to complete the above work within 30 days shall attract a penalty as below:
  - > Up to 10 days of delay Rs 1,000/- for each day of delay (per fee plaza)
  - ➤ After 10 days of delay Rs. 2,000/ for each day of delay (per fee plaza)

The total levied penalty for this SLA, however, shall not exceed Rs 1,00,000/- for each toll plaza.

#### ii. Manpower

The successful bidder shall ensure availability of manpower at the toll plazas 24\*7. In case of unavailability of manpower or shortfall in attendance (in shift) at site is brought to the notice of IHMCL, penalty shall be imposed as under:

Absence of shortfall in attendance - Rs 1000/- per shift per fee plaza (Day shall have 3 shifts of 8 hours each)

# iii. Double deduction/Overcharging in FASTag

The successful bidder shall ensure for efficient functionality of RFID readers in lanes, a single FASTag should not have two successful transactions within time difference (as latest specified by IHMCL/NHAI). There should not be any case of double/multiple deduction of FASTag account owing to multiple processing of transaction through RFID reader/ ETC application to Acquirer Bank.

In case of any deviance, penalty shall be imposed as below –

- Up to 100 cases of double deduction/over-charging reported in a calendar month Rs
   500 per case
- More than 100 cases of double deduction/over-charging reported in a calendar month
   Rs 1000 per case

In addition to above, Service Provider shall also be liable to pay for all the losses incurred by the concessionaire/toll plaza operators.

#### iv. Non-reading FASTag – Free Passage

# Gazette GSR 427(E), dated 7 may 2018 provisions -

"Provided also that if a vehicle user with a valid, functional FASTag or any such device with sufficient balance in the linked account crossing a fee plaza installed with Electronic Toll Collection infrastructure, is not able to pay user fee through FASTag or any such device owing to malfunctioning of Electronic Toll Collection infrastructure, the vehicle user shall be permitted to pass the fee plaza without payment of any user fee. An appropriate zero transaction receipt shall be issued mandatorily for all such transactions".

The successful bidder shall ensure for proper functionality and alignment of Fixed RFID readers in lanes, no case shall be found where a valid FASTag is not read by fixed RFID reader.

In case of any deviance, penalty shall be imposed as below -

In cases where vehicle user have been permitted to pass the fee plazas without payment of any user fee, the Service Provider shall be liable to pay for all the losses incurred by the concessionaire/toll plaza operators on account of free passage of vehicle without payment of any user fee.

- v. The Service Provide shall ensure that all ETC transactions shall be uploaded and downloaded as per ICD document (2.4, 2.5 or latest) and PG Guidelines. In case of any deficiency in adherence of ICD document and PG Guidelines, the Service Provider shall be fully responsible to provide settlement to the toll agencies for any rejection or non-uploading of ETC transaction. In case, settlement is not provided to toll agencies, IHMCL shall recover the same amount from Quarterly O&M Charges.
- vi. The Service Provider along with the Toll Operating Agency shall ensure that all transaction files of the ETC systems are uploaded as per the service levels defined in the NETC program.

#### 6.7 SPECIFICATION OF FIREWALL HARDWARE

#### a) Physical Interfaces

- i. LAN ports: Four (4) 10/100/1000 Mbps auto-sensing, Auto Uplink RJ-45 ports
- ii. WAN ports: Two (2) 10/100/1000 Mbps auto-sensing, Auto Uplink RJ-45 ports to connect to any broadband modem, such as DSL or cable

# b) Network Requirements

i. Firewall should operate in Route mode and transparent mode.

- ii. Traffic shaping/bandwidth management on a per policy basis for specific network/IP/Interface/Zone (individual or shared) and should be able to define guaranteed, burstable/maximum bandwidth per policy. Also, able to set different level of priority.
- iii. Support DHCP server, DHCP client, DHCP relay, DNS client and NTP client. xix. Support NAT (SNAT and DNAT) with following modes Static, Dynamic, PAT and IPv6 to IPv4 (vice a versa).
- iv. Support both IPv4 and IPv6
- v. The appliance should support Link aggregation (IEEE 802.3ad) technology to group multiple physical links into a single logical link of higher bandwidth and link fail over capability.
- vi. Remote access VPN (client-to-site), site-to-site VPN
- vii. IPsec NAT traversal (VPN pass-through)

# c) Data Leak Prevention requirements:-

- i. Should have the ability to prevent data loss through SMTP, FTP, HTTPS & IM
- ii. Should have built in pattern database

# d) Support SSL VPN with following requirements:

- i. Should support at least 20 SSL VPN users with at least 10 users from day 1.
- ii. Should support two factor authentications with LDAP, Radius and using tokens/email/SMS.
- iii. Support for clientless or client-based VPN in Full Tunnel and Split Tunnel mode.
- iv. Should support HTTP/HTTPS proxy, FTP, RDP, SSH, VNC, SMB service access provision through portal.
- v. Support on 32 bit and 64-bit OS.
- vi. Certified by ICSA preferred.
- vii. Support for all major browsers like Firefox/IE/Chrome etc. Java Script, Basic and Advanced Network Extensions.
- viii. Management over GUI using HTTPS or equivalent secure mechanism, SSH and console access.
- ix. Generate GUI based reports categorized on IP, user etc.
- x. The Firewall should support for TWO modes of SSL VPN:
- xi. Web-only mode: for thin remote clients equipped with a web browser only and support web application such as: HTTP/HTTPS PROXY, FTP, SMB/CIFS, SSH, VNC, RDP
- xii. Tunnel mode, for remote computers that run a variety of client and server applications
- xiii. The system shall provide SSL VPN tunnel mode that supports 32 and 64-bit Windows operating systems

xiv. The proposed solution shall allow administrators to create multiple bookmarks to add to a group and make these bookmarks available for SSL-VPN users.

#### e) Support IPS with following requirements

- i. ICSA and NSS certified preferred.
- ii. Anomaly detection and prevention up to layer 7 traffic including application type, SSL/TLS and must be applicable on any firewall policy.
- iii. Should be able to respond to any unauthorized activity, Dos/Distributed Dos, network missuses, pre-attack probes like various types of TCP/UDP scanners etc. that originate from both inside and outside network.
- iv. Management over GUI using HTTPS or equivalent secure mechanism, SSH and console access..
- v. Generate GUI based reports categorized by alerts, attackers, severity wise, protocol etc.

### f) Web content filtering

- i. Support web content filtering up to layer 7 traffic like HTTP, HTTPS, FTP, DNS, SMTP, IMAP, POP3 etc., with Application identification like IM, torrent etc., Allow/Deny traffic based on Src / Dst IP / Networks, Web URLs, Regular expressions, Web plug-ins such as ActiveX , Java Applet & Cookies, Regular file extensions, Spy wares, Ad wares, Time/Day.
- ii. Should have URL database of 20 million or more for web content filtering based on categories.
- iii. Data leak prevention for up to layer 7 traffic.
- iv. Should provide an option to send customized Access denied message to the end user.
- v. The proposed solution must block HTTP or HTTPS based anonymous proxy request available on the Internet.
- vi. Support for geographical based filtering like country level TLD etc.

# g) Gateway Antivirus

- Should provide protection against viruses, worms or any other malicious content in traffic like SMTP, POP3, IMAP, HTTP/S, FTP etc. and must be configurable/applicable on specific firewall Policy.
- ii. Should be able to scan the file either on the basis of flow or buffering.
- iii. Should have option to respond to virus detection in several ways like delete/quarantine the file And send notification via e-mail/SMS.
- iv. Antivirus signature updates must be done automatically/schedule and should not require reboot of the appliance.

- v. Management over GUI using HTTPS or equivalent secures mechanism, SSH and console access.
- vi. Support at least 1 million or more signatures
- vii. The antivirus signature database of proposed solution should comprise of up to date list of signatures of virus, malwares, spyware etc.
- viii. Support on quarantined facility on the appliance or on a remote system.
- ix. Allow/Block/quarantine file type extensions
- x. Generate GUI based reports categorized by virus signatures, host/user infected etc.

# h) Logging and Reporting

- i. Have standard report templates
- ii. Support scheduling of reports
- iii. Support sending of reports by email at scheduled intervals
- iv. Should provide standard dashboards
- v. Should be possible to offload logs from the logging and reporting appliance to other external storage for long term retention.
- vi. Logging up to layer 7 traffic details (firewall policy level, denied traffic details etc.)
- vii. Should provide log report in Web/GUI /dashboard-based format with detailed information categorized by IP/Application/Port/Protocol etc., able to forward logs to syslog server and sending schedule reports and send via email.
- viii. Log storing facility on a local disk or on to a remote system. Logs stored on the local disk must be transferable over network(scheduled) to a remote system and must be in a generic format like CSV, HTML, PDF, Excel(formats) or if proprietary, must provide appropriate software/hardware to generate the report.
- ix. Support configurable option for E-mail or SMS alerts (Via SMS gateway) in case of any event trigger.
- x. Should provide information of real time data transfer/bandwidth utilization of individual IP/Application/protocol/port/Interface/Zone.

#### PART VII- CONDITIONS OF CONTRACT

# 7.1 CONDITIONS OF CONTRACT

These Conditions shall supplement or amend the other parts of the Bidding Documents and whenever there is a conflict; provision herein shall prevail over those in the other parts of the Bidding Documents.

#### 7.2 GOVERNING LANGUAGE

All correspondence and other documents to be exchanged by the parties shall be written in the English language. The version written in English language shall govern its interpretation.

#### 7.3 APPLICABLE LAW

Appropriate laws as in force in Republic of India shall apply.

#### 7.4 INTERPRETATION

In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined.

The Bidders are expected to examine all terms and instructions included in the RFP Document. During preparation of the technical proposal, the bidders shall make their own assessment of staff to undertake the assignment.

#### 7.5 CONTRACT PERIOD

The initial period of engagement shall be 02 years from date of signing of Contract Agreement. The period of engagement may be further extendable by additional 1 year at the sole discretion of NHAI/IHMCL.

#### 7.6 INSURANCE

The Service Provider shall effect and maintain the insurance of ETC system at its own cost, during the Contract period, such insurances for such maximum sums as may be required under the Applicable Laws, and such insurances as may be necessary or prudent in accordance with Good Industry Practice to cover third party claims, theft, accidental damage, vandalism, fire, flood, and Force Majeure events. The insurance document shall be submitted after the completion of implementation work at each toll plaza.

#### 7.7 FORCE MAJEURE

a) Neither party shall be responsible to the other for any delay or failure in performance of its

- obligations due to any occurrence of a Force Majeure event which is beyond the control of any of the Parties, including, but without limited to, fire, flood, explosion, acts of God or any governmental body, public disorder, riots, embargoes, or strikes, acts of military authority, epidemics, strikes, lockouts or other labour disputes, insurrections, civil commotion, war, enemy actions.
- b) If a Force Majeure arises, the Service Provider shall promptly notify IHMCL in writing of such condition and the cause thereof. Unless otherwise directed by IHMCL, the Service Provider shall continue to perform his obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. The Parties shall be excused from performance of their respective obligations in whole or part as long as such Force Majeure event continues to prevent or delay such performance by the Parties. However, in case such Force Majeure event lasts for a continuous period of 60 days, either Party may terminate the Contract.

#### 7.8 INDEMNIFICATION

- a) The Service Provider shall indemnify, defend, save and hold harmless, IHMCL,NHAI and MoRTH and their officers, servants, agents (hereinafter referred to as the "IHMCL Indemnified Persons") against any direct loss, damage, claims, cost and expense of whatever kind and nature (including without limitation, legal fees, claims and expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of or are based upon any order passed by any statutory authority including Courts, tribunals or other judicial/quasi judicial authorities, on account of breach of the Service Provider's obligations under this Contract or any other related agreement or otherwise, any fraud or negligence attributable to the Service Provider or its Agents under contract or tort or on any other ground whatsoever, all eventualities of theft, dacoity, robbery, etc., except to the extent that any such suits, proceedings, actions, demands and claims has arisen due to any breach or default of this Contract on the part of IHMCL Indemnified Persons.
- b) The Service Provider shall indemnify IHMCL Indemnified Persons from all legal obligations in respect of professionals deployed by the Service Provider. IHMCL Indemnified Persons also stand absolved of any liability on account of death or injury sustained by the Service Provider's staff during the performance of their work and also for any damages or compensation due to any dispute between the Service Provider and its staff.
- c) In addition to the aforesaid, the Service Provider shall fully indemnify, hold harmless and defend IHMCL Indemnified Persons from and against any and all direct loss, damage, cost and expense of whatever kind and nature (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as

such fees and expenses are incurred), joint or several, that arise out of, or are based upon any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Service Provider or by the Agents in performing the Service Provider's obligations or in any way incorporated in or related to this Contract. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Service Provider shall make every reasonable effort, by giving a bond (of the type and value as required) or otherwise, to secure the revocation or suspension of the injunction or restraint order and continue to perform its obligations hereunder. If the Service Provider is unable to secure such revocation within a reasonable time, it shall, at its own expense, and without impairing the Specifications and Standards, shall rectify such defaults and shall also be liable for damages to IHMCL for the corresponding loss during the interim period on this account.

- d) The provisions of this Clause shall survive Termination.
- e) The remedies provided under this Clause are not exclusive and shall not limit any rights or remedies that may otherwise be available to IHMCL Indemnified Persons at law or in equity.

#### 7.9 TERMINATION

- a) ON EXPIRY OF THE CONTRACT: Subject to the condition mentioned under Clause 7.5, the Agreement shall be deemed to have been automatically terminated on the expiry of the Contract Period unless IHMCL has exercised its option to further renew the Contract Period in accordance with the provisions, if any, of the Contract.
- b) ON ACCOUNT OF FORCE MAJEURE: Either party shall have the right to terminate the Contract on account of Force Majeure, as set forth in Clause 7.7.
- c) ON BREACH OF CONTRACT: IHMCL may terminate the Contract if the Service Provider causes a fundamental breach of the Contract. Fundamental breach of Contract include, but shall not be limited to, the following:
  - i. The Service Provider fails to carry out any obligation under the Contract.
  - ii. The Service Provider without reasonable excuse fails to commence the work in accordance with relevant clauses.
  - iii. Has failed to furnish the required securities or extension thereof in terms of the Contract.
  - iv. the Service Provider stops work and the stoppage has not been authorized by IHMCL;
  - v. the Service Provider at any time during the term of the Contract becomes insolvent or makes a voluntary assignment of its assets for the benefit of creditors or is adjudged bankrupt
  - vi. If the Service Provider, in the judgment of the Employer, has engaged in the corrupt or

fraudulent practice in competing for or in executing the Contract.

- d) The Service Provider sub-contracts any assignment under this Agreement without approval of IHMCL.
- e) Any other fundamental breaches as specified in the RFP.
- f) Notwithstanding the above, IHMCL at its sole discretion may terminate the Contract Agreement any time by giving 30 days prior notice without assigning any reason. No compensation shall be provided for unused O&M services. However, remaining Capex value of "Not Available" equipment as provided under Annexure-2 shall be released to the Service Provider.
- g) Upon Termination (except on account of expiry of Term of this Agreement, Force Majeure), IHMCL shall be entitled at the sole discretion to:
  - i. Appropriate the entire Performance Security or part thereof as Damages; and
  - ii. Debar/Blacklist the Service Provider from participating in any other project/assignment/work of IHMCL for a period as determined by IHMCL in its sole discretion.

#### 7.10 ARBITRATION/ RESOLUTION OF DISPUTES

- a) Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to the Contract (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 7.10(d).
- b) The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of the Contract promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

# c) Mediation

In the event of any Dispute between the Parties, either Party may call upon the Chairman in case of IHMCL or his nominee and the Managing Director/ /CEO/Director, as the case may be, in case of the Service Provider to mediate in arriving at an amicable settlement thereof. If after expiry of 30 days of receipt of the documents in relation to the Dispute or such extended period as the Parties may agree in writing, the Dispute remains unresolved, the Parties shall attempt to resolve the dispute through conciliation and/or Arbitration under the Arbitration and Conciliation Act, 1996, in accordance with the procedure specified in Clause 7.10(d) and Clause 7.10(e).

# d) Conciliation

The Parties shall attempt to select one of the experts from the list of empanelled arbitrators of the Society for Affordable Redressal of Disputes ("SAROD") as the Conciliator to mediate and

assist the Parties in arriving at an amicable settlement thereof. If the Parties fail to agree on nominating a conciliator within 15 (fifteen) days or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 60 (sixty) days of the notice in writing or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 7.10(e).

#### e) Arbitration

Any Dispute which is not resolved amicably by conciliation, as provided in Clause 7.10(d), shall be finally settled by arbitration as set forth below:

- i. The Dispute shall be referred to the SAROD. The dispute shall be dealt with in terms of Rules of SAROD. The detailed procedure for conducting Arbitration shall be governed by the Rules of SAROD and provisions of Page 33 of 53 Arbitration & Conciliation Act, 1996, as amended from time to time.
- ii. The seat of Arbitration shall be New Delhi and the language for all documents and communications between the parties shall be English.
- iii. The expenses incurred by each party in connection with the preparation, presentation, etc., of arbitral proceedings shall be borne by each party itself.
- f) The arbitrators shall make a reasoned award (the "Award").
- g) The Service Provider and IHMCL agree that an Award may be enforced against the Service Provider and/or IHMCL, as the case may be, and their respective assets wherever situated.
- h) This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending any proceedings hereunder. Further, the Parties unconditionally acknowledge and agree that notwithstanding any Dispute between them, each Party shall proceed with the performance of its respective obligations, pending resolution of Dispute in accordance with this Clause.

# 7.11 Appropriation of Performance Security

- a) Upon failure of the Service Provider to commence the services, for any reason whatsoever, within the period set forth in this Contract or the extended period thereunder, IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to levy Penalty/Damages as per provision under this RFP.
- b) IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages or any other amounts payable to IHMCL under this Contract as and when such Damages or other

amounts become due and payable. Upon such encashment and appropriation from the Performance Security, the Service Provider shall, within 10 days thereof, replenish, in case of partial appropriation, to its original level of the amount guaranteed under the Performance Security, and in case of appropriation of the entire Performance Security, provide a fresh Performance Security, as the case may be failing which IHMCL shall be entitled to terminate this Agreement in accordance with clause 7.9 hereof.

#### 7.12 MISCELLANEOUS

#### a) Standard of Performance

The Service Provider shall undertake to perform the services with the highest standards of professional and ethical competence and integrity which are, amongst others, ESSENCE of this assignment. Keeping in view the sensitivity involved in such assignments, the personnel deployed should maintain confidentiality/integrity at all times and should work in a professional manner to protect the interest of IHMCL. The firm shall promptly replace any personnel deployed under this contract that IHMCL considered unsatisfactory.

#### b) Representations and Warranties of the Parties

The Parties represents and warrants to the each other that:

- It is duly organized and validly existing under the applicable laws, and has full power and authority to execute and perform its obligations under this Contract and to carry out the transactions contemplated hereby;
- ii. It has taken all necessary corporate and other actions under applicable laws to authorize the execution and delivery of this Contract and to validly exercise its rights and perform its obligations under this Contract;
- iii. This Contract constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Contract will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- iv. The information furnished in the Bid and as updated on or before the date of this Contract is true and accurate in all respects as on the date of this Contract;
- v. The execution, delivery and performance of this Contract will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its Memorandum and Articles of Association [or those of any member of the Consortium] or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- vi. There are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Contract or which

individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Contract;

#### c) Waiver of immunity

Each Party unconditionally and irrevocably:

- i. Agrees that the execution, delivery and performance by it of this Contract constitute commercial acts done and performed for commercial purpose;
- ii. Agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Contract or any transaction contemplated by this Contract, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;)
- iii. Waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- iv. Consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

#### d) Waiver

- i. Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Contract:
  - Shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Contract;
  - Shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
  - Shall not affect the validity or enforceability of this Contract in any manner.
- ii. Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Contract or any obligation there under nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

#### e) Liability for review of Documents

Except to the extent expressly provided in this Contract:

no review, comment or approval by IHMCL, any document submitted by the Service Provider

nor any observation or inspection of the Services performed by the Contractor nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Contract, the Applicable Laws and applicable permits; and

ii. IHMCL shall not be liable to the Service Provider by reason of any review, comment, approval, observation or inspection referred to in Sub-clause above.

## f) Exclusion of implied warranties etc.

This Contract expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

#### g) Survival

- i. Termination shall:
  - not relieve the Contractor or IHMCL, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
  - except as otherwise provided in any provision of this Contract expressly limiting the liability
    of either Party, not relieve either Party of any obligations or liabilities for loss or damage to
    the other Party arising out of or caused by acts or omissions of such Party prior to the
    effectiveness of such Termination or arising out of such Termination.
- ii. All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination

#### h) Entire Agreement

This Contract, the RFP and the Sections hereto together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Contract are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposals shall be deemed to form part of this Contract and treated as such.

# i) Severability

If for any reason whatever any provision of this Contract is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to

agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Contract or otherwise.

# j) No partnership

This Contract shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

#### k) Third parties

This Contract is intended solely for the benefit of the Parties and their respective successors and permitted assigns and nothing in this Contract shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Contract.

#### I) Successors and assigns

This Contract shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

#### m) Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Contract shall be in writing and shall:

- In the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to IHMCL; provided that notices or other communications to be given to an address outside Delhi may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the number as the Contractor may from time to time designate by notice to IHMCL;
- In the case of IHMCL, be given by facsimile or e-mail and by letter delivered by hand and be
  addressed to the [•] of IHMCL with a copy delivered to the Authority Representative or such
  other person as IHMCL may from time to time designate by notice to the Contractor; provided
  that if the Contractor does not have an office in Delhi it may send such notice by facsimile or
  e-mail and by registered acknowledgement due, air mail or by courier; and
- Any notice or communication by a Party to the other Party given in accordance herewith shall be deemed to have been delivered when in the normal course of post it ought to have been

delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery

#### n) Sub-Contracting

The Service Provider shall not sub-contract any assignment (excluding minimum civil work) to a third party. The Service Provider shall remain solely responsible for all works under this Agreement.

### o) Confidentiality of the Assignment/Findings

The agency shall not, during the term of assignment and within two years after its expiration, disclose any propriety or confidential information relating to the services, this assignment or IHMCL's business or operations without prior written consent of IHMCL.

#### p) Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties as the case may be, has been obtained.

#### q) Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Contract shall be in writing and in English language.

## Part VIII - ANNEXURES AND FORMS

### 8.1 BID FORM

(In the Bidder's Letter Head)

	Date:
From,	То,
(Name & Address of the Bidder)	Chief Operating Officer
	Indian Highways Management Co. Ltd. 1st Floor, NHAI Building, Sector –10,
Dwarka New Delhi 110 075 Subject:	
Ref.: Tender No	
is hereby duly acknowledged, we, to Job for the item in conformity with, Nos  We confirm that this bid is valid for a remain binding upon us and may be lift our bid is accepted, we will prodocument.  Until a final Contract is prepared acceptance thereof in your notificat. We undertake that, in competing the Contract, we will strictly observe the	etc. the receipt of which he undersigned, are pleased to bid to execute the whole of the the said RFP Documents, including Corrigendum / Addenda period of 180 days from the date of opening of Bid, and it shall exaccepted by any time before the expiration of that period. Wide the required performance guarantee as per the tender and executed between us, the bid together with your written ion of award shall constitute a binding Contract between us. For (and, if the award is made to us, in executing) the above he laws against fraud and corruption in force in India namely and other applicable law. We understand you are not bound in the said RFP Documents, including Contract between us.
(Signature of the Authorized signate Name and Designation of the Authorized Phone, Fax & E-Mail	ory): orized signatory: Name and Address of Bidder:

#### 8.2UNDERTAKING

Bidders are required to resubmit the undertaking only if there have been changes in the statements asserted in the RFQ No. IHMCL/HETC/2020/01, dated 08th Jan 2020. Bidders may refer to the same RFQ for the format of the undertaking.

#### **8.3 POWER OF ATTORNEY**

Bidders are required to resubmit the Power of Attorney only if there have been changes in the statements asserted in the RFQ No. IHMCL/HETC/2020/01, dated 08th Jan 2020. Bidders may refer to the same RFQ for the format of the same.

# 8.4 FORM OF PERFORMANCE SECURITY (BANK GUARANTEE)

(In the Bidder's Letter Head)

То	
Indian Highways Management Co. Ltd.	
1st Floor, NHAI Building, Sector 10,	
Dwarka, New Delhi 110 075	
WHEREAS	(Name and
address of Contractor) (hereinafter called "the Con-	tractor")* has undertaken, in pursuance of
Contract No.	datedto execute
(Name	e of contract and brief description of works)
( hereinafter called the "the Contract").	
AND WHEREAS it has been stipulated by you in t	he said Contract that the Contractor shall
furnish you with a Bank Guarantee by a recogniz	ed bank for the sum specified therein as
security for compliance with his obligations in accor	dance with the Contract;
AND WHEREAS we have agreed to give the Co	ontractor such a Bank Guarantee; NOW
THEREOF we hereby affirm that we are the Guara	antor and responsible to you, on behalf of
the Contractor up to a total of	(amount of
Guarantee)**	(in words) , such sum being payable in
the types and proportions of currencies in which	the Contract Price is payable, and we
undertake to pay you, upon your first written demar	nd and without cavil or argument, any sum
or sums within the limits of	(amount of Guarantee)as aforesaid
without your needing to prove or to show grounds	or reasons for your demand for the sum

specified therein.

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

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

The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the contractor or of the Bank.

Notwithstanding anything contained herein	before, our liabilit	y under	this	guarantee	e is
restricted to Rs(Rs			_)and	the guarar	ntee
shall remain valid tillUnless a clai	m or a demand in	writing is	serve	ed on us or	n or
before all our liability under t	his guarantee shall	cease.			
Signature and seal of the Guarantor	In presence of				
Name and Designation	1				
(1)					
(Name, signature & Occupation)					
Code no. of the officer(s) signing the guarante	e(s)				
Name of the Bank	` ,				
Name of the Dalik					
Address	2				
				-	
(Name, signature & Occupation)					
Date					
Controlling Office of the Bank:					
Contact Person:					
Address :					

Tel. No :
Note:  ** An amount is to be inserted by the Guarantor, representing the percentage of the contract price specified in the Contract and denominated in Indian Rupees.
8.5BID SECURITY DECALARATION FORM
Bid Security Declaration Form
(To be submitted by Bidder in the Letter head)
Date: RFP Ref
To,
Chief Operating Officer
Indian Highways Management Compancy Ltd. (IHMCL)
I/We. The undersigned, declare that:
I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.
I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification as well as may be delisted from list of empannelled SIs if I am /We are in a breach of any obligation under the bid conditions, because I/We
a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or

b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i)fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)

in the capacity c	of (insert	legal	capacity	of	person	signing	the	Bid	Securing
Declaration)									
Name:	(insert complete	name	of person	sigr	ning he B	id Securi	ing D	eclar	ation)
Duly authorized	to sign the bid for	r an on	behalf of	(ins	ert comp	olete nam	e of	Bidde	er)
Dated on	day of				(ins	ert date d	of sig	ning)	
Corporate Seal	(where appropriat	te)							

#### 8.6 FORMAT FOR FINANCIAL BID SUBMISSION

(To be submitted in the excel format as available on the e-procurement portal)

In case of any change in the number of lanes for a particular Toll Plaza, pro-rata calculation shall be made on the basis of lowest unit rate of lane equipment/lowest O&M rate quoted by the Bidder as per its Financial Bid.

#### 8.7 Annexure-1

The subsequent table captures the toll plazas list under this RFP :-

S.No	RO	PIU	Plaza Name	No. of Lanes
1	Jaipur	Ajmer	Para	6
2	Jaipur	Ajmer	Lilamba	6
3	Bhubaneswar	Bhubaneswar	Pipli	8
4	Bhopal	Jabalpur	Sonvarsa	6
5	Bhopal	Jabalpur	Khadda	6
6	Hyderabad	Khammam	Chinthapally	6
7	Ranchi	Dhanbad	Tand balidh	8

#### 8.8 Annexure-2

The exisiting Status of ETC system equipment at the fee plazas is as below: -

### a) Sonvarsa

Sr. No.	Equipment Name	Unit Per lane	Equipment Status	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on canopy	6	Availaible	Aug-19	
2	Electronics Enclosure	6	Availaible	Aug-19	
3	Lane Controller with Industrial PC	6	Availaible	Aug-19	

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
4	AVC including sensors, loop and detector	6	Availaible	Aug-19	
5	User Fare Display with mounting pole	6	Availaible	Aug-19	
6	Automatic Barrier Gate	6	Availaible	Aug-19	
7	Overhead Lane Status light (OHLS)	6	Availaible	Aug-19	
8	Traffic light with mounting pole	6	Availaible	Aug-19	
9	Loops with detector	12	Availaible	Aug-19	
10	Incident Capture Camera with mounting pole	6	Availaible	Aug-19	
11	License Plate Image Capture Camera with mounting poles	6	Availaible	Aug-19	
12	Customized industrial grade keyboard	6	Availaible	Aug-19	
13	TFT Monitor	6	Availaible	Aug-19	
14	Thermal Receipt Printer	6	Availaible	Aug-19	
15	Violation light & Alarm (on existing pole) and Foot switch in booth	6	Availaible	Aug-19	
16	Booth CCTV camera with voice recording	6	Availaible	Aug-19	
17	Intercom Slave unit in booth	6	Availaible	Aug-19	
18	Lane Level UPS	6	Availaible	Aug-19	
В	Other components (Lane level & Plaza Level)	Unit in Plaza	Equipment Status	Year of Installation	Remarks
1	Intercom Master unit	1	Availaible	Aug-19	
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	4	Availaible	Aug-19	
3	ETC Server (Plaza)	1	Availaible	Aug-19	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Availaible	Aug-19	
5	24 Port Network switch (Layer 3)	2	Availaible	Aug-19	
6	Internet router for connection to the CCH	1	Availaible	Aug-19	
7	Broadband Internet Connection	1	Availaible	Aug-19	
8	UPS system as required for complete ETC system (10 KVA or above)	2	Availaible	Aug-19	
9	Network Video Recorder (NVR) for CCTV recording	1	Availaible	Aug-19	
10	Firewall	1	Not Available		
11	Broadband/Dedicated Internet Lease Line (01 Static IP) with minimum 04 Mbps link for CCH connectivity	2	01 - Availaible and 01 Not Available	Aug-19	
12	Servo Staiblizer ( 60 KVA -3 phase)	1	Not Available		

## b) Khadda

Installation	
Canopy   C	6   Availaible   Aug 10
3 Lane Controller with Industrial PC 4 AVC including sensors, loop and detector 5 User Fare Display with mounting pole 6 Availaible Aug-19 6 Automatic Barrier Gate 7 Overhead Lane Status light (OHLS) 8 Traffic light with mounting pole 9 Loops with detector 12 Availaible Aug-19 10 Incident Capture Camera with mounting pole 6 Availaible 11 License Plate Image Capture Camera with mounting poles 12 Customized industrial grade keyboard 13 TFT Monitor 14 Thermal Receipt Printer 15 Violation light & Alarm (on existing pole) and Foot switch in booth 16 Booth CCTV camera with voice recording 17 Intercom Slave unit in booth 18 Lane Level UPS 6 Availaible Aug-19 Cempton Aug-19 Cempto	6 Available Aug-19
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5 User Fare Display with mounting pole 6 Availaible Aug-19 7 Overhead Lane Status light (OHLS) 8 Traffic light with mounting pole 9 Loops with detector 10 Incident Capture Camera with mounting pole 11 License Plate Image Capture Camera with mounting poles 12 Availaible Aug-19 13 TFT Monitor 14 Thermal Receipt Printer 15 Violation light & Alarm (on existing pole) and Foot switch in booth 16 Booth CCTV camera with voice recording 17 Intercom Slave unit in booth 18 Lane Level UPS 18 Overhead Lane Status light (OHLS) 6 Availaible Aug-19 6 Availaible Aug-19 7 Availaible Aug-19 8 Availaible Aug-19 9 Loops with detector 12 Availaible Aug-19 13 Availaible Aug-19 14 Availaible Aug-19 15 Violation light & Alarm (on existing pole) and Foot switch in booth 16 Availaible Aug-19 17 Intercom Slave unit in booth 18 Lane Level UPS 18 Other components (Lane level & Plaza Level) 19 Unit in Plaza Equipment Status 19 Availaible Aug-19 10 Availaible Aug-19 11 Capture Camera With mounting pole 12 Availaible Aug-19 13 TFT Monitor 14 Availaible Aug-19 15 Availaible Aug-19 16 Availaible Aug-19 17 Intercom Slave unit in booth 18 Lane Level UPS 18 Other components (Lane level & Plaza Level) 19 Unit in Plaza Equipment Status	6 Availaible Aug-19
6 Automatic Barrier Gate 6 Availaible Aug-19 7 Overhead Lane Status light (OHLS) 6 Availaible Aug-19 8 Traffic light with mounting pole 6 Availaible Aug-19 9 Loops with detector 12 Availaible Aug-19 10 Incident Capture Camera with mounting pole 6 Availaible Aug-19 11 License Plate Image Capture Camera with mounting poles 6 Availaible Aug-19 12 Customized industrial grade keyboard 6 Availaible Aug-19 13 TFT Monitor 6 Availaible Aug-19 14 Thermal Receipt Printer 6 Availaible Aug-19 15 Violation light & Alarm (on existing pole) and Foot switch in booth 6 Availaible Aug-19 16 Booth CCTV camera with voice recording 6 Availaible Aug-19 17 Intercom Slave unit in booth 6 Availaible Aug-19 18 Lane Level UPS 6 Availaible Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
7 Overhead Lane Status light (OHLS) 6 Availaible Aug-19 8 Traffic light with mounting pole 6 Availaible Aug-19 9 Loops with detector 12 Availaible Aug-19 10 Incident Capture Camera with mounting pole 6 Availaible Aug-19 11 License Plate Image Capture Camera with mounting poles 6 Availaible Aug-19 12 Customized industrial grade keyboard 6 Availaible Aug-19 13 TFT Monitor 6 Availaible Aug-19 14 Thermal Receipt Printer 6 Availaible Aug-19 15 Violation light & Alarm (on existing pole) and Foot switch in booth 6 Availaible Aug-19 16 Booth CCTV camera with voice recording 6 Availaible Aug-19 17 Intercom Slave unit in booth 6 Availaible Aug-19 18 Lane Level UPS 6 Availaible Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
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9 Loops with detector 12 Availaible Aug-19 10 Incident Capture Camera with mounting pole 6 Availaible Aug-19 11 License Plate Image Capture Camera with mounting poles 6 Availaible Aug-19 12 Customized industrial grade keyboard 6 Availaible Aug-19 13 TFT Monitor 6 Availaible Aug-19 14 Thermal Receipt Printer 6 Availaible Aug-19 15 Violation light & Alarm (on existing pole) and Foot switch in booth 6 Availaible Aug-19 16 Booth CCTV camera with voice recording 6 Availaible Aug-19 17 Intercom Slave unit in booth 6 Availaible Aug-19 18 Lane Level UPS 6 Availaible Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
10 Incident Capture Camera with mounting pole 6 Availaible Aug-19  11 License Plate Image Capture Camera with mounting poles 6 Availaible Aug-19  12 Customized industrial grade keyboard 6 Availaible Aug-19  13 TFT Monitor 6 Availaible Aug-19  14 Thermal Receipt Printer 6 Availaible Aug-19  15 Violation light & Alarm (on existing pole) and Foot switch in booth 6 Availaible Aug-19  16 Booth CCTV camera with voice recording 6 Availaible Aug-19  17 Intercom Slave unit in booth 6 Availaible Aug-19  18 Lane Level UPS 6 Availaible Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
License Plate Image Capture Camera with mounting poles  12 Customized industrial grade keyboard  13 TFT Monitor  14 Thermal Receipt Printer  15 Violation light & Alarm (on existing pole) and Foot switch in booth  16 Booth CCTV camera with voice recording  17 Intercom Slave unit in booth  18 Lane Level UPS  19 Availaible  10 Availaible  11 Aug-19  12 Aug-19  13 Availaible  14 Aug-19  15 Availaible  16 Availaible  17 Aug-19  18 Lane Level UPS  18 Other components (Lane level & Plaza Level)  19 Availaible  10 Availaible  11 Aug-19  12 Aug-19  13 Availaible  14 Aug-19  15 Availaible  16 Availaible  17 Aug-19  18 Aug-19  18 Cher components (Lane level & Plaza Level)  18 Cher components (Lane level & Plaza Level)  19 Availaible  10 Aug-19  11 Aug-19  12 Aug-19  13 Aug-19  14 Aug-19  15 Availaible  16 Availaible  17 Aug-19  18 Aug-19  18 Cher components (Lane level & Plaza Level)  18 Cher components (Lane level & Plaza Level)  19 Availaible  10 Aug-19  11 Aug-19  12 Aug-19  13 Aug-19  14 Aug-19  15 Aug-19  16 Availaible  17 Aug-19  18 Aug-19	12 Availaible Aug-19
11 mounting poles 12 Customized industrial grade keyboard 13 TFT Monitor 14 Thermal Receipt Printer 15 Violation light & Alarm (on existing pole) and Foot switch in booth 16 Booth CCTV camera with voice recording 17 Intercom Slave unit in booth 18 Lane Level UPS 19 Available Aug-19 10 Available Aug-19 11 Aug-19 12 Aug-19 13 Available Aug-19 14 Aug-19 15 Available Aug-19 16 Available Aug-19 17 Intercom Slave unit in booth 18 Cother components (Lane level & Plaza Level) 19 Available Aug-19 10 Available Aug-19 11 Aug-19 12 Available Aug-19 13 Available Aug-19 14 Aug-19 15 Available Aug-19 16 Available Aug-19 17 Available Aug-19 18 Cother components (Lane level & Plaza Level) 19 Available Aug-19 10 Available Aug-19 20 Available Aug-19 21 Aug-19 22 Aug-19 23 Available Aug-19 24 Aug-19 25 Available Aug-19 26 Available Aug-19	6 Availaible Aug-19
TFT Monitor  14 Thermal Receipt Printer  15 Violation light & Alarm (on existing pole) and Foot switch in booth  16 Booth CCTV camera with voice recording  17 Intercom Slave unit in booth  18 Lane Level UPS  19 Other components (Lane level & Plaza Level)  10 Availaible  11 Aug-19  12 Aug-19  13 Availaible  4 Aug-19  4 Availaible  5 Availaible  4 Aug-19  6 Availaible  5 Availaible  6 Availaible  6 Availaible  7 Aug-19  8 Availaible  7 Aug-19  8 Availaible  8 Aug-19  9 Availaible  9 Aug-19  10 Availaible  11 Aug-19  12 Aug-19  13 Aug-19  14 Aug-19  15 Availaible  16 Availaible  17 Aug-19  18 Aug-19  18 Aug-19  18 Aug-19  18 Aug-19  18 Aug-19	6 Availaible Aug-19
14 Thermal Receipt Printer 6 Availaible Aug-19 15 Violation light & Alarm (on existing pole) and Foot switch in booth 6 Availaible Aug-19 16 Booth CCTV camera with voice recording 6 Availaible Aug-19 17 Intercom Slave unit in booth 6 Availaible Aug-19 18 Lane Level UPS 6 Availaible Aug-19 19 Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
Violation light & Alarm (on existing pole) and Foot switch in booth  16 Booth CCTV camera with voice recording  17 Intercom Slave unit in booth  18 Lane Level UPS  19 Other components (Lane level & Plaza Level)  10 Available  11 Aug-19  12 Aug-19  13 Available  4 Aug-19  4 Available  Aug-19	6 Availaible Aug-19
Foot switch in booth  Booth CCTV camera with voice recording  Intercom Slave unit in booth  Booth CCTV camera with voice recording  Aug-19  Available  Aug-19  Available  Aug-19  Available  Aug-19  Available  Aug-19  B Other components (Lane level & Plaza Level)  Unit in Plaza  Equipment Status  Year of Installation	6 Availaible Aug-19
17 Intercom Slave unit in booth 6 Availaible Aug-19 18 Lane Level UPS 6 Availaible Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
18 Lane Level UPS 6 Available Aug-19  B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Year of Installation Rem	6 Availaible Aug-19
B Other components (Lane level & Plaza Level) Unit in Plaza Equipment Status Installation	6 Availaible Aug-19
1 Intercom Master unit 1 Availaible Aug-19	
	1 Availaible Aug-19
2 CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)  4 Availaible Aug-19	4 Availaible Aug-19
3 ETC Server (Plaza) 1 Availaible Aug-19	1 Availaible Aug-19
4 Workstations for MIS, Cashup, Audit & LSDU 4 Availaible Aug-19	4 Availaible Aug-19
5 24 Port Network switch (Layer 3) 2 Available Aug-19	2 Availaible Aug-19
6 Internet router for connection to the CCH 1 Available Aug-19	1 Availaible Aug-19
7 Broadband Internet Connection 1 Available Aug-19	1 Availaible Aug-19
8 UPS system as required for complete ETC 2 Available Aug-19 system (10 KVA or above)	2 Availaible Aug-19
9 Network Video Recorder (NVR) for CCTV 1 Available Aug-19	1 Availaible Aug-19
10 Firewall 1 Not Available	1 Not Available
Broadband/Dedicated Internet Lease Line ( 01 Static IP) with minimum 04 Mbps link for CCH connectivity  01 - Available and 01 Not Available  Aug-19	
12 Servo Staiblizer ( 60 KVA -3 phase) 1 Not Available	1 Not Available

## c) Pipli

Sr. No.	Equipment Name	Unit Per lane	Equipment Status	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on canopy	8	Availaible	Aug-19	
2	Electronics Enclosure	8	Availaible	Aug-19	
3	Lane Controller with Industrial PC	8	Availaible	Aug-19	
4	AVC including sensors, loop and detector	8	Availaible	Aug-19	
5	User Fare Display with mounting pole	8	Availaible	Aug-19	
6	Automatic Barrier Gate	8	Availaible	Aug-19	
7	Overhead Lane Status light (OHLS)	8	Availaible	Aug-19	
8	Traffic light with mounting pole	8	Availaible	Aug-19	
9	Loops with detector	16	Availaible	Aug-19	
10	Incident Capture Camera with mounting pole	8	Availaible	Aug-19	
11	License Plate Image Capture Camera with mounting poles	8	Availaible	Aug-19	
12	Customized industrial grade keyboard	8	Availaible	Aug-19	
13	TFT Monitor	8	Availaible	Aug-19	
14	Thermal Receipt Printer	8	Availaible	Aug-19	
15	Violation light & Alarm (on existing pole) and Foot switch in booth	8	Availaible	Aug-19	
16	Booth CCTV camera with voice recording	8	Availaible	Aug-19	
17	Intercom Slave unit in booth	8	Availaible	Aug-19	
18	Lane Level UPS	8	Availaible	Aug-19	
В	Other components (Lane level & Plaza Level)	Unit in Plaza	Equipment Status	Year of Installation	Remarks
1	Intercom Master unit	1	Availaible	Aug-19	
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	4	Availaible	Aug-19	
3	ETC Server (Plaza)	1	Availaible	Aug-19	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Availaible	Aug-19	
5	24 Port Network switch (Layer 3)	2	Availaible	Aug-19	
6	Internet router for connection to the CCH	1	Availaible	Aug-19	
7	Broadband Internet Connection	1	Availaible	Aug-19	
8	UPS system as required for complete ETC system (10 KVA or above)	2	Availaible	Aug-19	

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
9	Network Video Recorder (NVR) for CCTV recording with 30 days of storage	1	Availaible	Aug-19	
10	Firewall	1	Not Available		
11	Broadband/Dedicated Internet Lease Line (01 Static IP) with minimum 04 Mbps link for CCH connectivity	2	01 - Availaible and 01 Not Available	Aug-19	
12	Servo Staiblizer ( 60 KVA -3 phase)	1	Not Available		

## d) Chinthapally

Sr. No.	Equipment Name	Unit Per lane	Equipment Status	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on canopy	6	Availaible	Jan-19	
2	Electronics Enclosure	6	Availaible	Jan-19	
3	Lane Controller with Industrial PC	6	Availaible	Jan-19	
4	AVC including sensors, loop and detector	6	Availaible	Jan-19	
5	User Fare Display with mounting pole	6	Availaible	Jan-19	
6	Automatic Barrier Gate	6	Availaible	Jan-19	
7	Overhead Lane Status light (OHLS)	6	Availaible	Jan-19	
8	Traffic light with mounting pole	6	Availaible	Jan-19	
9	Loops with detector	12	Availaible	Jan-19	
10	Incident Capture Camera with mounting pole	6	Availaible	Jan-19	
11	License Plate Image Capture Camera with mounting poles	6	Availaible	Jan-19	
12	Customized industrial grade keyboard	6	Availaible	Jan-19	
13	TFT Monitor	6	Availaible	Jan-19	
14	Thermal Receipt Printer	6	Availaible	Jan-19	
15	Violation light & Alarm (on existing pole) and Foot switch in booth	6	Availaible	Jan-19	
16	Booth CCTV camera with voice recording	6	Availaible	Jan-19	
17	Intercom Slave unit in booth	6	Availaible	Jan-19	
18	Lane Level UPS	6	Availaible	Jan-19	
В	Other components (Lane level & Plaza Level)	Unit in Plaza	Equipment Status	Year of Installation	Remarks
1	Intercom Master unit	1	Availaible	Jan-19	

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	4	Availaible	Jan-19	
3	ETC Server (Plaza)	1	Availaible	Jan-19	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Availaible	Jan-19	
5	24 Port Network switch (Layer 3)	2	Availaible	Jan-19	
6	Internet router for connection to the CCH	1	Availaible	Jan-19	
7	Broadband Internet Connection	1	Availaible	Jan-19	
8	UPS system as required for complete ETC system (10 KVA or above)	2	Availaible	Jan-19	
9	Network Video Recorder (NVR) for CCTV recording with 30 days of storage	1	Availaible	Jan-19	
10	Firewall	1	Not Available		
11	Broadband/Dedicated Internet Lease Line ( 01 Static IP) with minimum 04 Mbps link for CCH connectivity	2	01 - Availaible and 01 Not Available	Jan-19	
12	Servo Staiblizer ( 60 KVA -3 phase)	1	Not Available		

## e) Para

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on canopy	6	Availaible	Jul-19	
2	Electronics Enclosure	6	Availaible	Jul-19	
3	Lane Controller with Industrial PC	6	Availaible	Jul-19	
4	AVC including sensors, loop and detector	6	Availaible	Jul-19	
5	User Fare Display with mounting pole	6	Availaible	Jul-19	
6	Automatic Barrier Gate	6	Availaible	Jul-19	
7	Overhead Lane Status light (OHLS)	6	Availaible	Jul-19	
8	Traffic light with mounting pole	6	Availaible	Jul-19	
9	Loops with detector	12	Availaible	Jul-19	
10	Incident Capture Camera with mounting pole	6	Availaible	Jul-19	
11	License Plate Image Capture Camera with mounting poles	6	Availaible	Jul-19	
12	Customized industrial grade keyboard	6	Availaible	Jul-19	
13	TFT Monitor	6	Availaible	Jul-19	
14	Thermal Receipt Printer	6	Availaible	Jul-19	

Sr. No.	Equipment Name	Unit Per lane	Equipment Status	Year of Installation	Remarks
15	Violation light & Alarm (on existing pole) and Foot switch in booth	6	Availaible	Jul-19	
16	Booth CCTV camera with voice recording	6	Availaible	Jul-19	
17	Intercom Slave unit in booth	6	Availaible	Jul-19	
18	Lane Level UPS	6	Availaible	Jul-19	
В	Other components (Lane level & Plaza Level)	Unit in Plaza	Equipment Status	Year of Installation	Remarks
1	Intercom Master unit	1	Availaible	Jul-19	
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	4	Availaible	Jul-19	
3	ETC Server (Plaza)	1	Availaible	Jul-19	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Availaible	Jul-19	
5	24 Port Network switch (Layer 3)	2	Availaible	Jul-19	
6	Internet router for connection to the CCH	1	Availaible	Jul-19	
7	Broadband Internet Connection	1	Availaible	Jul-19	
8	UPS system as required for complete ETC system (10 KVA or above)	2	Availaible	Jul-19	
9	Network Video Recorder (NVR) for CCTV recording with 30 days of storage	1	Availaible	Jul-19	
10	Firewall	1	Not Available		
11	Broadband/Dedicated Internet Lease Line ( 01 Static IP) with minimum 04 Mbps link for CCH connectivity	2	01 - Availaible and 01 - Not Available	Jul-19	
12	Servo Staiblizer ( 60 KVA -3 phase)	1	Not Available		

## f) Lilamba

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on canopy	6	Availaible	Aug-19	
2	Electronics Enclosure	6	Availaible	Aug-19	
3	Lane Controller with Industrial PC	6	Availaible	Aug-19	
4	AVC including sensors, loop and detector	6	Availaible	Aug-19	
5	User Fare Display with mounting pole	6	Availaible	Aug-19	
6	Automatic Barrier Gate	6	Availaible	Aug-19	
7	Overhead Lane Status light (OHLS)	6	Availaible	Aug-19	
8	Traffic light with mounting pole	6	Availaible	Aug-19	

Sr. No.	Equipment Name	Unit Per lane	<b>Equipment Status</b>	Year of Installation	Remarks
9	Loops with detector	12	Availaible	Aug-19	
10	Incident Capture Camera with mounting pole	6	Availaible	Aug-19	
11	License Plate Image Capture Camera with mounting poles	6	Availaible	Aug-19	
12	Customized industrial grade keyboard	6	Availaible	Aug-19	
13	TFT Monitor	6	Availaible	Aug-19	
14	Thermal Receipt Printer	6	Availaible	Aug-19	
15	Barcode Reader with stand	6	Availaible	Aug-19	
16	Violation light & Alarm (on existing pole) and Foot switch in booth	6	Availaible	Aug-19	
17	Booth CCTV camera with voice recording	6	Availaible	Aug-19	
18	Intercom Slave unit in booth	6	Availaible	Aug-19	
19	Lane Level UPS	6	Availaible	Aug-19	
В	Other components (Lane level & Plaza Level)	Unit in Plaza	Equipment Status	Year of Installation	Remarks
1	Intercom Master unit	1	Availaible	Aug-19	
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	4	Availaible	Aug-19	
3	ETC Server (Plaza)	1	Availaible	Aug-19	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Availaible	Aug-19	
5	24 Port Network switch (Layer 3)	2	Availaible	Aug-19	
6	Internet router for connection to the CCH	1	Availaible	Aug-19	
7	Broadband Internet Connection	1	Availaible	Aug-19	
8	UPS system as required for complete ETC system (10 KVA or above)	2	Availaible	Aug-19	
9	Network Video Recorder (NVR) for CCTV recording	1	Availaible	Aug-19	
10	Firewall	1	Not Available		
	Broadband/Dedicated Internet Lease Line ( 01		01 - Availaible and 01		
11	Static IP) with minimum 04 Mbps link for CCH connectivity  Servo Staiblizer ( 60 KVA -3 phase)	2	Not Available  Not Available	Aug-19	

## g) Tand Balindh

Sr. No.	Equipment Name	Total Unit	Equipment Status	Year of Installation	Remarks
1	RFID ETC transceiver near Pay-axis - mounted on	8	Available	29-09-2018	
	canopy				

Sr.	Equipment Name	<b>Total Unit</b>	<b>Equipment Status</b>	Year of	Remarks
No.				Installation	
2	Electronics Enclosure	8	Available	07-12-2017	
3	Lane Controller with Industrial PC	8	Available	07-12-2017	
4	AVC including sensors, loop and detector	8	Available	07-12-2017	
5	User Fare Display with mounting pole	8	Available	07-12-2017	
6	Automatic Barrier Gate	8	Available	07-12-2017	
7	Overhead Lane Status light (OHLS)	8	Available	07-12-2017	
8	Traffic light with mounting pole	8	Available	07-12-2017	
9	Loops with detector	16	Available	07-12-2017	
10	Incident Capture Camera with mounting pole	8	Available	07-12-2017	
11	License Plate Image Capture Camera with mounting poles	8	Not Available		
12	Customized industrial grade keyboard	8	Not Available	07-12-2017	Normal Keyboard Available
13	TFT Monitor	8	Available	07-12-2017	
14	Thermal Receipt Printer	8	Available	07-12-2017	
15	Violation light & Alarm (on existing pole) and Foot switch in booth	8	Not Available		
16	Booth CCTV camera with voice recording	8	Available	07-12-2017	
17	Intercom Slave unit in booth	8	Available	07-12-2017	
18	Lane Level UPS	8	Not Available		
В	Other components (Lane level & Plaza Level)				Remarks
1	Intercom Master unit	1	Available	07-12-2017	
2	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	6	Available	07/12/2017	
3	ETC Server (Plaza)	1	Available	29-09-2018	
4	Workstations for MIS, Cashup, Audit & LSDU	4	Available	07-12-2017	
5	24 Port Network switch (Layer 3)	2	Available	07-12-2017	
6	Internet router for connection to the CCH	1	Available	07-12-2017	
7	UPS system as required for complete ETC system (10 KVA or above)	2	Available	07-12-2017	
8	Network Video Recorder (NVR) for CCTV recording	1	Available	07-12-2017	
9	Firewall	1	Available	07-12-2017	
10	Broadband/Dedicated Internet Lease Line ( 01 Static IP) with minimum 04 Mbps link for CCH connectivity	2	Available	Jan-2019 & May-2021	10 mbps lease line
11	Servo Staiblizer ( 60 KVA -3 phase)	1	Not Available		

8.9 Annexure-3
Latest L1 rates discovered by IHMCL is as follows:-

SI. no	Item	Unit	Unit Rate (Rs.)
1	RFID ETC transceiver near Pay-axis - mounted on canopy (1 per lane)	No	53095
2	Electronics Enclosure - (1 per lane)	No	8418
3	Lane Controller with Industrial PC - (1 per lane)	No	120435
4	AVC including sensors, Controller, loop and detector - (1 per lane)	Set	129500
5	User Fare Display with mounting pole - (1 per lane)	Set	19425
6	Automatic Barrier Gate - (1 per lane)	No	71225
7	Overhead Lane Status light (OHLS) - (1 per lane)	No	5828
8	Traffic light with mounting pole - (1 per lane)	Set	6734
9	Loop with detector - (2 per lane)	Set	6164
10	Incident Capture Camera with mounting pole - (1 per lane)	Set	4533
11	License Plate Image Capture Camera with mounting poles - (1 per lane)	Set	8418
12	Customized industrial grade keyboard - (1 per lane)	No	8418
13	ETC Server (01 per Plaza)	No	457135
14	Workstations for MIS, Cashup, Audit & LSDU (Lane status display unit in control room)	No	42735
15	24 Port Network switch (Layer 3)	No	60865
16	Broadband/Dedicated Internet Lease Line (01 Static IP) with minimum 04 Mbps link for CCH connectivity for 02 years	Facility	181300
17	UPS system as required for complete ETC system	No	161875
18	Servo stablizer (60 KVA - 03 phase)	No	97125
19	Network Video Recorder (NVR) for CCTV recording with adequate storage	No	51800
20	TFT Monitor - (1 per lane)	No	7511
21	Thermal Receipt Printer - (1 per lane)	No	11008
22	Violation light & Alarm (on existing pole) and Foot switch in booth - (1 per lane)	No	7446
23	Booth CCTV camera with voice recording - (1 per lane)	No	5828
24	Intercom Slave unit in booth - (1 per lane)	No	4274
25	Lane Level UPS - (1 per lane)	No	24605
26	Intercom Master unit - (1 per plaza)	No	53095
27	Firewall Hardware	No	58275
28	CCTV cameras for Plaza building surveillance (server room, control room, cash room, admin)	No	4921