

**RFP for the Selection of System Integrator for
Design, Supply, Installation, Testing,
Commissioning and Operation & Maintenance
of Vehicle Monitoring, Enforcement and
Collection System for National Capital Region**

Date: 18/04/2026

RFP No. IHMCL/VMECS/2026

Issued by

**Indian Highways Management Company
Limited**

**Asia Bhawan, Sector-09, Dwarka,
New Delhi- 110077**

Note: Time is the essence of this Project.

Indian Highways Management Company Limited
Asia Bhawan, Sector-9, Dwarka, New Delhi - 110077

NOTICE INVITING RFP

RFP No. IHMCL/VMECS/2026

Dated: 18/04/2026

- i. Indian Highways Management Company Limited (Hereinafter referred to as “Authority” or “IHMCL”) invited RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region. The Project is to be implemented on the merging points of exits from Western Peripheral Expressway and Eastern Peripheral Expressway on Highways/ Roads heading towards Delhi **Time is the essence of this project, hence any delay in completion of the project shall be dealt strictly as per the provision of this RFP.**
- ii. The Project shall be complete turnkey solution with provision of skilled resources at all locations for operation and maintenance. The period of engagement shall be five years of O&M period and 03 months of project implementation and trial run period.
- iii. The prospective bidder are hereby invited to submit their bids comprising Technical and Financial bids through e-tendering mode only by the bid due date. Bid shall be valid for 120 days w.e.f. bid due date. The bids should be submitted online only on e-tender portal of Government of India and in the prescribed formats. No change in the formats and / or other mode of bid submission is permissible.
- iv. Bidder should pay Tender Application Fee (non-refundable) INR 25,000/- (Rupees Twenty Five Thousand Only) inclusive of GST through online mode. The bidder shall also upload the online payment receipt.
- v. The Indian Highways Management Company Limited now invites bids from eligible System Integrators for the following project:

Region	RFP Ref No.	Name of Assignment	EMD	Implementation Period	Period
Delhi, National Capital Region (NCR)	RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle	RFP No. IHMCL/VMECS/2026	INR 01 Crore	03 Months	03 Months (Design, Development and Implementation period) and 60 Months as O&M period (After successful completion & commissioning of the

Indian Highways Management Company Limited

	Monitoring, Enforcement and Collection System for National Capital Region				Vehicle Monitoring, Enforcement and Collection System (VMECS)
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- vi. The complete BID document can be viewed / downloaded from official portal of IHMCL <http://www.IHMCL.org> or e-procurement portal of IHMCL <https://etenders.gov.in> from 18/04/2026 to 15/05/2026. Bidder must submit online its financial bid and Technical Bid at <https://etenders.gov.in> on or before 15/05/2026 up to 15:00 Hrs. IST. Bids received online shall be opened on 16/05/2026 at 15:30 Hrs. IST.
- vii. Bid through any other mode shall not be entertained. Please note that the Authority reserves the right to accept or reject all or any of the BIDs without assigning any reason whatsoever.

Officer In-charge

COO - IHMCL,

Indian Highways Management Company Limited

Asia Bhawan, Sector-09, Dwarka, New Delhi- 110077

Phone – 011- 25074100 Extn - 1804

e-mail: tenders@ihmcl.com

Disclaimer

The information contained in this RFP document (the “RFP document”) or subsequently provided to Bidder(s), whetherverbally 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 document and such other terms and conditions subject to which such information is provided.

This RFP document is not an agreement and is neither an offer nor invitation by IHMCL to the prospective Bidders or any other person. The purpose of this RFP document is to provide interested parties with information that may be useful to them in making their technical/ financial offers (“Bid(s)”) pursuant to this RFP document. This RFP document includes statements, which reflect various assumptions and assessments arrived at by IHMCL in relation to the Project. Such assumptions, assessments, and statements do not purport to contain all the information that each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for IHMCL, its employees or advisors to consider the investment objectives, financial situation, and particular needs of each party who reads or uses this RFP document. The assumptions, assessments, statements and information contained in this RFP document, 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 document and obtain independent advice from appropriate sources.

Information provided in this RFP document 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 applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP document or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP document and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP document 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 document. 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 document.

The issue of this RFP document does not imply that IHMCL is bound to select a Bidder or to appoint the Successful Bidder for the Project and IHMCL reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

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

Document Composition

This RFP Documents comprises for following parts.

Part-I	Instructions to Bidders
Part-II	Formats for Bid Submission
Part-III	Draft Format of Contract Agreement
Section 1.1	Draft Contract Agreement
Section 1.2	General Conditions of Contract
Schedule A	Details of Site
Schedule B	<ul style="list-style-type: none"> • Detailed Scope of Work <ul style="list-style-type: none"> ○ Design & Development of the VMECS System. ○ Operation & Maintenance of VMECS System. • Service Level Agreements (SLA)
Schedule C	<ul style="list-style-type: none"> • Functional & Technical Specifications • Minimum Bill of Quantities (BoQ)

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DEFINITIONS

S.No	Term	Definition
1.	Acquirer Bank	The member bank certified by NPCI as an Acquirer Bank under NETC program.
2.	Applicable Law	Are the laws applicable in India
3.	Authority	Indian Highways Management Company Limited (IHMCL)/ National Highway Authority of India (NHAI)/ Concerned Government Body
4.	Authorized Representative	Authorised Representative of bidder
5.	Charges	A Fee to be charged from eligible vehicles as notified by the Authority.
6.	Commission for Air Quality Management (CAQM)	CAQM means the Commission for Air Quality Management in National Capital Region and Adjoining Areas, constituted by the Government of India under the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021, responsible for planning, coordinating, supervising, monitoring and enforcing measures for improvement of air quality in the National Capital Region and adjoining areas, including issuance of directions, advisories and regulatory measures related to vehicular emissions and environmental compliance.
7.	CCH	Central Clearing House (Currently managed by NPCI)
8.	Commencement Date or Effective Date	The date on which the Successful Bidder signs the Contract Agreement.
9.	Communication network	A wired or wireless facility used to send and receive data between the centralized component and the [Company Phone].
10.	Command & Control Centre (CCC)	“Command and Control Central (CCC)” means the centralized facility under Vehicle Monitoring, Enforcement and Collection System (VMECS) responsible for real-time monitoring, control, transaction processing, Validation and enforcement coordination, including integration with VAHAN, FASTag ecosystem and Government enforcement systems, for automated collection of Environment Charges and issuance of e-notices in a multi-lane free-flow environment.

S.No	Term	Definition
11.	Decision support	Reports, Graphs, Dashboard and Alerts, etc. which shall help in supporting decisions for Multi- Lane Free Flow project
12.	Detection	Count and Classification of vehicle passing through a gantry system.
13.	Downtime	"Downtime" refers to the period during which VMECS equipment or system is either non-functional or not actively operating to execute its intended tasks effectively, thus failing to meet the operational characteristics outlined in the RFP document due to significant interruptions or failures.
14.	FASTag	Passive RFID tag issued by bank for a specific vehicle for toll collection
15.	Good Industry Practice	"Good Industry Practice" means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner.
16.	Issuer Bank	The bank who has issued the FASTag.
17.	Lane	A lane is part of a roadway (carriageway) that is designated for use by a single file of vehicles, to control and guide drivers.
18.	Vehicle Monitoring, Enforcement and Collection System (VMECS)	Vehicle Monitoring, Enforcement and Collection System (VMECS) means an advanced, barrier-less and fully automated technology platform designed for the detection, identification, classification, validation, enforcement, and electronic collection of Government-notified charges, from eligible vehicles entering designated enforcement zones within the Delhi-NCR region, utilizing technologies such as RFID, ANPR etc., and operating across multiple lanes without requiring vehicles to slow down, stop, or pass through dedicated toll or enforcement lanes, thereby ensuring seamless, uninterrupted traffic flow and reduced congestion.
19.	VMECS Components	The components used to implement the VMECS Solution.
20.	MoRTH	Ministry of Road Transport and Highways
21.	Network Control Software	Application software that generates, monitors, and manages the transaction for all intersections under the Vehicle Monitoring, Enforcement and Collection System (VMECS).

S.No	Term	Definition
22.	NPCI	National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007
23.	Successful Bidder	The “bidder”, “Agency” and “Contractor” interchangeably, after the complete evaluation process, has been issued the letter of award by IHMCL.
24.	Toll Monitoring and Control Centre (TMCC)	“ TMCC ” refers to the Toll Monitoring and Control Centre established at IHMCL/NHAI headquarters in New Delhi for monitoring and maintaining the VMECS equipment health status, as well as the traffic and revenue data of all defined locations.
25.	Turnkey	End to End from the initial design and planning to the final implementation and commissioning.
26.	Un-settled Transactions	Failed transactions owing to blacklisting / low- balance / in-sufficient balance/ non-functional tag/ close tag/ unregistered tag/ hot listed tag and any transaction posted beyond defined TAT is called as Unsettled Transactions as per Procedural Guidelines under the NETC programme (amended time to time)
27.	Uptime	Uptime ” refers to the duration during which an VMECS equipment or system is actively functioning, operating, and ready to execute its intended tasks effectively, meeting the operational characteristics as defined in the RFP document, without encountering significant interruptions or failures.
28.	VAHAN/SARATHI	VAHAN refers to the centralized national registry and application system for Vehicle Registration, including details of registered vehicles, ownership, permits, taxation, and related attributes; and SARATHI refers to the centralized application system for issuance and management of Driving Licences, learner licences, and related driver information;
29.	Vehicle Classification	Shall mean vehicle classification as per National Highways Fee (Determination of Rates and Collection) Rules 2008 or any other Notification of the Government for the purpose of VMECS.
30.	Violation	“ Violation ” refers to the passage of any vehicle through the VMECS system without FASTag or with Invalid FASTag, non-functional FASTag such as cases involving blacklisted FASTag, hotlisted FASTag etc. in accordance with the Programme Guidelines (PG) issued by IHMCL/NPCI, as amended from time to time.

S.No	Term	Definition
31.	Contract Value / Contract Price	<p>Contract Price” or “Contract Value” shall mean the total price as indicated in Form F-1 (Financial Bid Summary), derived from the rates quoted by the Bidder in Form F-2 (Bill of Quantities / Price Bid) and accepted by the Authority.</p> <p>The Contract Price is an indicative and accepted bid value for the purpose of evaluation and award, and payments to the Contractor shall be made based on the actual quantities of work executed, supplied, installed, commissioned, and operated, in accordance with the provisions of the Contract</p>
32.	Go Live	<p>Go-Live" of the Vehicle Monitoring, Enforcement and Collection System (VMECS) shall refer to the official commencement of live operations under actual traffic conditions at the designated site, along with complete deployment and readiness of all Vehicle Monitoring, Enforcement and Collection System (VMECS) system components—including field hardware, application software, central back-office systems, and on-site operational teams. The Vehicle Monitoring, Enforcement and Collection System (VMECS) system must be fully functional, with end-to-end integration of all modules and seamless interoperability with external interfaces with VAHAN, NPCI, TMCC, payment gateway(s), as per requirements. Go-Live shall be deemed achieved only upon confirmation that all subsystems meet the defined performance criteria and compliance requirements as stipulated in the contract. For avoidance of doubt, “Go-Live” shall be considered successful only after acceptance of SAT.</p>
33.	Working Days	<p>Working days refer to the days of the week when businesses and organizations operate, and employees are expected to work. Typically, these days are Monday through Friday, excluding weekends (Saturday and Sunday) and public holidays as per GOI.</p>

B. INTERPRETATION

All capitalized terms shall have meanings assigned in this RFP. Words importing singular shall include plural and vice versa. Headings are for convenience only and shall not affect interpretation.

ABBREVIATIONS

#	Abbreviations	Full Form
1.	ANPR	Automatic Number Plate Recognition
2.	BoQ	Bill of Quantities
3.	CCH	Central Clearing House
4.	CMOS	Complementary Metal Oxide Semiconductor
5.	DSRC	Dedicated Short Range Communication
6.	EPE	Eastern Peripheral Expressway
7.	FAT	Factory Acceptance Test
8.	FS	Functional Specification
9.	GoI	Govt. of India
10.	GNCTD	Government of National Capital Territory of Delhi
11.	GNSS	Global Navigation Satellite System
12.	IHMCL	Indian Highways Management Company Limited
13.	ITMS	Intelligent Traffic Management System
14.	ITS	Intelligent Transportation System
15.	VMECS	Vehicle Monitoring, Enforcement And Collection System(VMECS)
16.	MoRTH	Ministry of Road Transport and Highways
17.	NHAI	National Highways Authority of India
18.	NPCI	National Payment Corporation of India
19.	NIC	National Informatics Centre
20.	PG	Procedural Guidelines
21.	RBI	Reserve Bank of India
22.	RFID	Radio Frequency Identification
23.	SAT	Site Acceptance Test

#	Abbreviations	Full Form
24.	SI	System Integrator
25.	STQC	Standardization Testing and Quality Certification
26.	TS	Technical Specifications
27.	UAT	User Acceptance Test
28.	VRN	Vehicle Registration Number
29.	VIN	Vehicle Identification Number (Chassis Number of the Vehicle)
30.	LHS & RHS	Left Hand Side(LHS) & Right Hand Side(RHS) road
31.	WIM	Weigh In Motion
32.	WPE	Western Peripheral Expressway
33.	HSWIM	High Speed Weigh In Motion

PART-I INSTRUCTIONS TO BIDDERS

1. INTRODUCTION

1.1. Background

- 1.1.1. Indian Highways Management Company Limited (Hereinafter referred to as “Authority” or “IHMCL”) intends to engage the System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region.
- 1.1.2. The Project shall include implementation of a comprehensive VMECS solution and its Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region. The construction period of the Project is 3 months and O&M Period of 5 years.
- 1.1.3. Brief particulars of the Project are as follows:

Region	RFP Ref No.	Name of Assignment	EMD	Implementation Period	Period
Delhi, National Capital Region (NCR)	RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region	RFP No. IHMCL/VMECS/2026	INR 01 Crore	03 Months	03 Months (Design, Development and Implementation period) and 60 Months as O&M period (After successful completion & commissioning of the Vehicle Monitoring, Enforcement and Collection System(VMECS))

- 1.1.4. The Successful Bidder shall be responsible for Implementation of Vehicle Monitoring, Enforcement and Collection System in accordance with the provisions of a contract (the “Contract”) to be entered into between the Successful Bidder and the Authority in the form provided by the Authority as part of the Bidding Documents pursuant hereto.
- 1.1.5. The Agreement sets forth the detailed terms and conditions for award of the project to the Bank, including the scope of the Bank’s services and obligations enclosed as part of this document.
- 1.1.6. The Authority shall receive bids pursuant to this RFP in accordance with the terms set forth in this RFP, and all bids shall be prepared and submitted in accordance with such terms on or before the bid due date.

- 1.1.7. The Authority shall receive BIDs pursuant to this RFP in accordance with the terms set forth in this RFP, and all BIDs shall be prepared and submitted in accordance with such terms on or before the BID due date specified in Clause 2 for submission of BIDs (the “BID Due Date”).
- 1.1.8. The Bidder shall use the official portal of IHMCL <http://www.ihmcl.co.in> or e-procurement portal of GOI <https://etenders.gov.in> to download and upload the documents.
- 1.1.9. No physical document shall be accepted unless and until the same is specifically stated in the RFP or it is a legal requirement.

2. KEY DATES

#	EVENT(S)	DATE (Unless otherwise notified separately)
1.	Invitation of RFP (NIT)	18/04/2026
2.	Last date of receiving queries	03/05/2026 Upto 05:00 PM IST
3.	Pre-Bid meeting at specified venue	04/05/2026 at 11:00 AM IST
4.	Last date/ time for online submission of bids (i.e., Bid due date)	15/05/2026 Upto 05:00 PM IST
4.	Opening of <i>Technical bids</i>	16/05/2026 at 05:30 PM IST
5.	Opening of Financial bids	To be intimated to shortlisted/ technically qualified bidders separately.
6.	Validity of Bids	120 Days

3. GENERAL TERMS OF BIDDING

3.1. Tender Fee

- (a) Bidder should pay **Tender Application Fee** (non-refundable) **INR 25,000/- (Rupees Twenty Five Thousand only)** through online mode. The Bidder shall also upload the online payment receipt.
- (b) Details of designated bank account are as under:

S.No.	Particulars	Details
1.	Name of Beneficiary	Indian Highways Management Company Limited
2.	Name of Bank	Canara Bank
3.	Account No.	8598201006217
4.	IFSC Code	CNRB0008598

3.2. BID SECURITY

- 3.2.1. The bidder shall furnish as part of its Bid, a Bid Security amounting to Rs 1,00,00,000/- (Rs One Crore). The Bid Security shall be in the form of Bank Guarantee (in format mentioned in this RFP) in favour of Indian Highways Management Company Limited, New Delhi from any of the following banks: -
- State Bank of India or its subsidiaries,
 - Any Indian Nationalised Bank.
 - Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 500 Cr as per the latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.
 - A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalised Bank.
- 3.2.2. Any bid not accompanied by a Bid Security and Tender Application Fee in the prescribed manner shall be summarily rejected.
- 3.2.3. The Bid Security of the unsuccessful bidders will be returned as promptly as possible after the expiration of the period of bid validity / Award of Work.
- 3.2.4. The Bid Security of the selected bidder shall be retained till it has provided a Performance Security under the Contract Agreement
- 3.2.5. **Exemption to MSME Registered Firms**

- a) Micro and Small Enterprises if registered with any government bodies specified by Ministry of Micro, Small & Medium Enterprises (M/o MSME) with valid certificate duly issued by GOI are exempted for submitting the Earnest Money Deposit (EMD). It will be applicable for those bidders who shall produce their own goods or provide their own services, and not applicable for trading purpose. No entrepreneur or memorandum of application form is acceptable.
- b) Only Firms registered with MSME / NSIC with valid certificate duly issued by GOI are exempted from submitting EMD. No other type of certificate is acceptable.
- c) The firms registered under MSME shall be required to submit the Bid Securing Declaration Form as provided in Form T-13. This should be part of physical document submission and shall be applicable wherever mentioned in the RFP.
- d) No exemption is allowed in case the bidder is participating in the bid as JV/Consortium.

3.3. INVOCATION OF BID SECURITY:

- 3.3.1. The Bid Security shall be forfeited by IHMCL as damages payable to IHMCL for, inter-alia, time, cost and effort of IHMCL without prejudice to any other right or remedy that may be available to IHMCL under the provisions in the RFP and/or under the Contract, or otherwise, under the following circumstances:
 - a. If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice; or
 - b. If the Bid is withdrawn during the intervening period between the bid due date and the expiration of the Bid Validity; or
 - c. If the bidder tries to influence the evaluation process; or
 - d. If a Bidder having been notified Successful Bidder by IHMCL with the issuance of Letter of Award (LOA) during the bid validity period:
 - i. Fails or refuses to furnish the Performance Security, in accordance with the conditions of RFP; or
 - ii. Fails or refuses to execute/sign the Contract within the stipulated time frame.
- 3.3.2. No Bidder shall submit more than one Bid for the Project. A Bidder bidding individually or as a member of a JV/Consortium shall not be entitled to submit another Bid either individually or as a member of any JV/ Consortium, as the case may be.
- 3.3.3. Any condition or qualification or any other stipulation contained in the Bid shall render the Bid liable to rejection as a non-responsive Bid.
- 3.3.4. The Bidding documents including this RFP and all attached documents, provided by the

Authority are and shall remain or become the property of the Authority and are transmitted to the Bidders solely for the purpose of preparation and submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The provisions of this Clause shall also apply mutatis mutandis to Bids and all other documents submitted by the Bidders, and the Authority will not return to the Bidders any Bid, document or any information provided along therewith.

- 3.3.5. Notwithstanding anything to the contrary contained herein, in the event that the Bid Due Date falls within three months of the closing of the latest financial year of a Bidder, it shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the 5 (five) years, preceding its latest financial year. For the avoidance of doubt, financial year shall, for the purposes of this Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.

4. ELIGIBILITY AND PRE-QUALIFICATION CRITERIA

4.1. Pre-Qualification Criteria

The Bidders are required to fulfil the following Pre-Qualification Criteria:

SI #	Eligibility Conditions/Conditions	Supporting Document to be provided
PQ 1 – Entity	<p>The bidder shall be one of the following:</p> <p>a) A business entity (“Sole Bidder”) incorporated under the Companies Act 1956/2013 or Limited Liability Partnerships Act 2008.</p> <p>OR,</p> <p>b) A JV/Consortium of business entities (“Consortium”), where each Member of the Consortium shall be incorporated under the Companies Act 1956/2013 or Limited Liability Partnerships Act 2008, subject to following points:</p> <p>i. members of the Consortium shall nominate one member as the lead member (the “Lead Member”), who shall be responsible for all interactions with IHMCL;</p> <p>ii. maximum number of members in the Consortium shall be two (2) including the Lead Member; maximum number of members in the Consortium shall be two (2) including the Lead Member;</p> <p>iii. In case of a JV, each member shall hold not less than twenty-six percent (26%) of equity stake of the JV at all times during the Contract Period. The same shall be clearly specified in the JV/Consortium Agreement, along with the roles and responsibilities of each member.</p> <p>iv. the members in the Consortium shall be jointly and severally liable;</p> <p>v. any entity who has submitted Proposal for this RFP in its individual capacity or as part of a Consortium cannot participate as a member of any other Consortium;</p> <p>vi. The Sole Bidder or any member of a JV/Consortium from a country sharing a land border with India shall be</p>	<p>For sole bidder or all members of the Consortium</p> <p>i. Copy of Certificate of Incorporation / Registration under Companies Act, 1956/2013 or any equivalent foreign act, or Partnership deed, as applicable.</p> <p>ii. Power of Attorney for Lead Member of JV/Consortium as per the format enclosed at T-4</p> <p>iii. Power of Attorney/Letter of Authorization as per T-3</p> <p>iv. JV/Consortium Agreement as per format T-5</p> <p>v. GST Registration Certificate (in case of foreign entity, an undertaking on GST registration, as applicable)</p>

	<p>eligible to participate only if the Bidder is registered with the Competent Authority, as per Government of India guidelines.</p> <p>The Sole Bidder / all members of a JV/Consortium shall be registered with GST in India. In case any member of the JV/Consortium is a foreign entity, the Bidder shall submit an undertaking along with its Proposal that, in the event of award, the said foreign member shall obtain GST registration within thirty (30) days of issue of Letter of Award (LoA).</p>									
PQ 2 - Annual Turnover	<p>The Bidder shall have a Minimum Average Annual Turn Over (updated to the price level of the year based on factors indicated in table below) of Rs 100 Crore for any three consecutive Financial Years i.e., between FY 2022-23 to FY 2024-25.</p> <table><tr><td>Year</td><td>Year-1</td><td>Year-2</td><td>Year-3</td></tr><tr><td>Updation Factor</td><td>1.00</td><td>1.05</td><td>1.10</td></tr></table> <p>In the case of a Joint Venture/Consortium, the Lead Member shall meet at least 70% requirement of Minimum Average Annual Turnover and the other Member shall meet at least 20% of Minimum Average Annual Turnover. For avoidance of doubt it is further clarified that the Joint Venture must collectively and individually satisfy the above qualification criteria, i.e., JV shall cumulatively/collectively fulfil the 100% requirement</p>	Year	Year-1	Year-2	Year-3	Updation Factor	1.00	1.05	1.10	<p>For sole bidder or all members of the Consortium</p> <p>i.Certificate from the Statutory Auditor clearly specifying the annual turnover for the specified years in T-8,</p> <p>And</p> <p>ii.Audited and Certified copies of Balance Sheet and Profit/Loss Account of last 3 consecutive Financial Years last three (03) consecutive financial years, i.e. FY 2022-23, 2023-24, 2024-25</p>
Year	Year-1	Year-2	Year-3							
Updation Factor	1.00	1.05	1.10							
PQ 3 - Net worth	<p>The Sole Bidder or all members of the JV/Consortium, in case of a Consortium, must have positive Net worth in Indian Rupees as on 31 March, 2025.</p> <p>For the purpose of this RFP, net worth (the “Net Worth”) shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves</p>	<p>For sole bidder or all members of the Consortium</p> <p>i.Certificate from the Statutory Auditor clearly specifying the net worth of the firm as on 31 March 2025 as per T-8</p>								

	<p>created out of revaluation of assets, write back of depreciation and amalgamation.</p> <p>For the purpose of this criterion, net-worth of only the bidding entity will be considered. Net-Worth of any parent, subsidiary, associated or other related entity will not be considered.</p>	
PQ 4 - Relevant Experience on ICT	<p>The Sole Bidder or any Member(s) of the Consortium should have been successfully implemented/ completed large scale IT/ICT project(s) related to end-to-end IT system Implementation and Operation & Maintenance in India or abroad during last seven years awarded by Central/State Government departments/entities including PSUs as on the Bid Due Date as below:</p> <ul style="list-style-type: none"> At least one project with contract value minimum INR 80 Crore (excl taxes as applicable) Or, At least 2 projects with contract value minimum INR 60 Crore (excl taxes as applicable) Or, At least 3 projects with contract value minimum INR 40 Crore (excl taxes as applicable) <p>The project(s) should be either completed, or ongoing with the Operations & Maintenance (O&M) phase currently in progress.</p>	<p>For Sole Bidder or the Lead Bidder, in case of Consortium:</p> <p>Undertaking in the Bid Covering as per format T-2 by the Sole Bidder/Lead Member, in case of a JV/Consortium with supporting evidence of all members in case of JV/Consortium.</p> <p>(Copy of relevant and valid Completion Certificate and LOA/Contract awarded in last seven years).</p>
PQ 5 - Relevant Experience on ITS/ATMS Projects	<p>The Sole Bidder or any Member of the Consortium, in case of Consortium, should have successfully implemented and commissioned any of following projects:</p> <p>a) Minimum cumulative length of 200 Kms of ITS/ATMS implemented in Highways / Expressways</p> <p>OR,</p> <p>b) Implementation of IT equipment/systems on road/street level in at least one (01) project, of minimum contract value of INR 25 Crore (excluding taxes as applicable) under any Smart City project, city surveillance/safe city project, or airport CCTV surveillance project, in India or abroad, awarded by Central/State</p>	<p>For Sole Bidder or any Member(s) in case of a Consortium</p> <p>i. Work order(s)/ Contract Agreement(s) clearly highlighting the relevant scope of work, and contract value, year of execution.</p> <p>AND</p> <p>ii. Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead</p>

	<p>Government departments/entities including PSUs/Autonomous Bodies within last seven 7 years prior as on the Bid due date.</p> <p>Note: The project(s) should be either completed, or ongoing with the Operations & Maintenance (O&M) phase currently in progress.</p> <p>For the purpose of evaluation, a project shall qualify as an ITS/ATMS/Smart City Project/Safe city project, or Airport CCTV surveillance project only if it includes a dedicated Command and Control Center equipped with centralized integrated software application, video wall, along with ANY TWO of the following components:</p> <ol style="list-style-type: none"> Traffic monitoring or surveillance CCTV camera systems Automated video-based incident detection and enforcement solutions Vehicle speed violation detection solutions (e.g., radar, ANPR, or equivalent technologies) Advanced video analytics solution for traffic operations and/or incident management. 	<p>OR,</p> <p>Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client.</p> <p>IHMCL reserves the right to contact the afore-mentioned competent authority.</p>
PQ – 6 Certification	The Sole Bidder or, any member of the Consortium, in the case of a Consortium, shall have a valid CMMI Level 4 or higher certificate as on the Bid Due Date.	Copy of valid certificate
PQ – 7 Undertaking of Blacklisting	A bidder who has been blacklisted or declared ineligible by the Government of India or any foreign government, their ministries, executing agencies, public sector undertakings (PSUs), state governments, enforcement agencies, or any international bodies, shall be ineligible to participate in this RFP	Self-declaration to this effect shall be submitted as part of the Bid as per format T-1
PQ 8 - Undertaking of Insolvency, bankruptcy	<p>A bidder who has had any proceedings for insolvency or bankruptcy shall not be considered eligible to participate in this global tender. This includes:</p> <p>Insolvency Proceedings: Any legal proceedings initiated under the applicable insolvency laws of any country for the resolution of insolvency of the bidder. Any admission of an insolvency application by a competent court or tribunal against the bidder.</p> <p>Bankruptcy Proceedings: Any legal declaration of bankruptcy by a competent court in any jurisdiction. Any bankruptcy order</p>	Self-declaration to this effect shall be submitted as part of the Bid as per Format T-1

	passed by a court or tribunal that declares the bidder unable to pay its debts.	
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4.2. ELIGIBLE ORIGINAL EQUIPMENT MANUFACTURER (OEM) CRITERIA

(Undertaking as per format in T-7):

- a) For purposes of this Clause, the term “goods” includes commodities, raw material, machinery, equipment, and industrial plants; and “related services” includes services such as insurance, transportation, supply, installation, integration, testing, commissioning, training, and initial maintenance.
- b) Bidders must comply with the Office Memorandum no. F. No. NH-35014/20/2020-H, Government of India, Ministry of Road Transport & Highways dated 04.08.2020, regarding Department of Expenditure (DoE), Ministry of Finance, Govt. of India O.M. No. 6/18/2019-PPD dated 23.07.2020, vide which Rule 144 of the general Financial Rules 2017 entitled “Fundamental principles of public buying” has been amended by inserting sub-rule 144 (xi) in the General Financial Rules (GFRs), 2017. As per the new rule “Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Bidder shall furnish the registration status of the supplier with Competent Authority (for the items / goods proposed to be procured from any country which shares a land border with India).
- c) OEM should not be rebranding & reselling products in India through importing/ trading from a country that shares a Land Border with India.
- d) Source code of the Software and Firmware being supplied for all the relevant equipment being supplied against this bid does not reside in any Country that shared a Land Border with India.
- e) OEM for each product or technology quoted should be in the business of that product or solution or technology for at least 3 years as on the date of release of the RFP.
- f) OEM for all active components should give a declaration that products or technology quoted are neither end of- sale nor end-of-life as on the date of installation and commissioning and are not end-of-support till the successful completion of O&M period of the project.

- g) Bidder's proposed OEM should not have been blacklisted by any State / Central Government Department or Central /State PSUs in India or abroad as on bid submission date.
- h) Each of the proposed OEM should have capability and infrastructure to provide 24x7x365 technical support in India.
- i) OEM of all equipment should be compliant as per provisions given in Schedule-C.
- j) All CCTV Cameras OEMs proposed under this project must fully comply with all applicable regulatory guidelines, standards, and certifications as prescribed by the Government of India. Documentary evidence of such compliance must be submitted prior to commencement of System Acceptance Testing (SAT). Failure to comply with this requirement shall constitute a material breach of the Contract, entitling the Purchaser to take appropriate remedial action, including but not limited to replacement of non-compliant cameras, termination of the Contract and forfeiture of performance security.

4.3. Conflict of Interest:

- 4.3.1. A Bidder shall not have a conflict of interest that may affect the bidding process (the "Conflict of Interest"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, IHMCL shall invoke the bid securing declaration as mutually agreed genuine pre-estimated loss and damage likely to be suffered and/ or incurred by the IHMCL and not by way of penalty for, inter alia, the time, cost and effort of IHMCL including consideration of such Bidder's Bids, without prejudice to any other right or remedy that may be available to IHMCL hereunder or otherwise.
- 4.3.2. IHMCL requires that the selected bidder provides professional, objective, and impartial advice and at all times hold IHMCL's interest's paramount, avoid conflicts with other assignments or its own interests. The selected bidder shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of IHMCL.
- 4.3.3. A Bidder shall be deemed to have a Conflict of Interest affecting the bidding process, if:
 - 4.3.3.1. A constituent¹ of Bidder is also a constituent of another Bidder; or
 - 4.3.3.2. Such Bidder, its member or its associate receives or has received any direct or indirect subsidy or grant from any other Bidder, its member or its associate; or
 - 4.3.3.3. Such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
 - 4.3.3.4. Such Bidder, its member or its associates has a relationship with another Bidder, its member or its associates, directly or through common third parties, that puts them in a

position to have access to each other's information about the bids, or if they actually share or access each other's information regarding the bids or to influence the bid of either or each of the other Bidder; or

4.3.3.5. There is a conflict among this and other assignments of the Bidder (including its member, associates, personnel and subordinates) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the Bidder will depend on the circumstances of each case. While providing services to IHMCL for this particular assignment, the Bidder shall not take up any assignment that by its nature will result in conflict with the present assignment; or

4.3.3.6. A Company/firm which has been engaged by the Authority to provide goods and/or works and/or services for a project, and its associates, will be disqualified from providing consulting services for the same project and/or associated services, conversely, a firm hired to provide services for the preparation or implementation of a project, and its associates, will be disqualified from subsequently providing goods or works or services related to the same project and/or associated services; or

4.3.4. Bidders should be deemed to be in a conflict of interest situation if it can be reasonably concluded that their position in a business or their personal interest could improperly influence their judgment in the exercise of their duties. The process for selection of Bidders should avoid both actual and perceived conflict of interest; or

4.3.5. The Bidder, its member or Associate (or any constituent thereof) and any other Bidder, its member or any Associate thereof (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the director in direct shareholding of a Bidder, its member or an Associate thereof (or any shareholder thereof having a shareholding of not more than 25% (twenty five percent) of the paid up and subscribed capital; of such Bidder, Member or Associate, as the case may be) in the other Bidder, its Member or Associate, is not more than 25% (Twenty five percent) of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Companies Act, 1956/2013. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows: (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (bb)

subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26% of the subscribed and paid up equity shareholding of such intermediary; or

- 4.3.6. For purposes of this RFP Document, Associate means, in relation to the bidder, a person who controls, is controlled by, or is under the common control with such bidder. As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law or by contract.
- 4.3.7. The normal way to identify conflicts of interest is through self-declaration by the Bidder. Where a conflict exists, which has not been declared, competing companies are likely to bring this to the notice of IHMCL. All conflicts must be declared as and when the Bidder becomes aware of them.

1 For the purpose of this clause the word “*constituent*” shall include Promoter, Director, Shareholder, Partner, Agent, representative etc.

5. CLARIFICATION REGARDING RFP DOCUMENT

A prospective Bidder requiring any clarification regarding the RFP may notify IHMCL in writing or e-mail at IHMCL's address indicated in the invitation to Bid. IHMCL will respond to any request for clarification which is received before the pre-Bid meeting.

5.1. PRE-BID MEETING

- 5.1.1. The Bidder or his authorized representative is invited to attend a pre-Bid meeting which will take place at IHMCL, Asia Bhawan, Sector-9, Dwarka, New Delhi-110077 as mentioned in the Schedule of Events.
- 5.1.2. The Bidders who are interested in attending the pre-bid meeting should confirm IHMCL about the participation one day prior to the schedule. The confirmation can be sent to tenders@ihmcl.com.
- 5.1.3. The purpose of the meeting will be to clarify issues and to answer questions on any matter pertaining to this RFP document. All Bidders are requested to go through the RFP document carefully and submit any queries/ clarifications addressed to the COO, IHMCL in the format prescribed in Part II, Form T-10. The Bidder is requested to submit any questions / queries in writing or by email in editable format to tenders@ihmcl.com so as to reach IHMCL well before the scheduled meeting.
- 5.1.4. Clarifications to the queries will be hosted on IHMCL's website/ e-tender portal only.
- 5.1.5. Any modification in the RFP document which may become necessary as a result of the deliberations in the pre-Bid meeting shall be made by IHMCL separately through issue of an Addendum/ Amendment will be hosted on IHMCL's website/ e-tender portal.

6. ACCESSING BID DOCUMENTS, PREPARATION AND SUBMISSION OF BID

1. Detailed RFP document can be viewed / downloaded from IHMCL e-tender portal.
2. Website for accessing RFP is <http://etenders.gov.in>. The Bidders shall submit the proposal as per criteria laid down in the RFP. The tender process timelines are mentioned in the RFP as Schedule of the Tender”.

6.1. PREPARATION & SUBMISSION OF BIDS:

- (i) Detailed **RFP** may be downloaded from IHMCL’s e-tender portal of IHMCL and bid shall be submitted online following the instruction appearing on the screen.
- (ii) The scanned copies of the following documents shall be submitted as part of bid to IHMCL before the prescribed date & time for submission of Bids.
 - a. Tender Application Fee in the manner prescribed.
 - b. Bid Securing Declaration in the manner prescribed.
 - c. Original Power of Attorney in favour of Authorized Signatory in the Format prescribed in this document.
 - d. if applicable, Power of Attorney for Lead Member of JV/ Consortium in the format prescribed in this document.
 - e. if applicable, Joint Bidding Agreement for JV/ Consortium in the format prescribed in this document.
- (iii) The Technical and Financial bid should be submitted online only in the prescribed format given on the e-tender portal. No other mode of submission is accepted.

6.2. Bid Validity:

The bid should remain valid for a period of 120 calendar days from the bid due date. IHMCL will make its best efforts to complete the evaluation process and work award within the bid validity period. Under exceptional circumstances, prior to expiry of the bid validity, IHMCL may request bidder to extend the bid validity for specified additional period. Such request by IHMCL and reply / response from bidder shall be in writing. The bidder(s) not agreeing to such extension will be allowed to withdraw their bids without invocation of their bid securing declaration.

6.3. Bid Composition:

The Bid shall comprise the following:

6.3.1 PART 1 Technical Bid

To be uploaded on E-tender portal only. Physical submission of bids is not allowed)

- i. Tender Fee (proof of deposition in given account No)
- ii. Bid Security (Scan copy of Bank Guarantee)
- iii. Technical Bid comprising various formats Form T-1 to Form T-13 prescribed in RFP.
- iv. Stipulated documentary evidence attested by the authorised signatory in support of their claim for fulfilling the prescribed eligibility criteria and an undertaking on the bidder's letterheads to the fairness of these documents in support of their claim while submitting the Bids
- v. Undertaking that the bidder has not been determined non-performing or having been terminated any of his project during last three years by Ministry of Road Transport & Highways, Government of India or its executing agencies like IHMCL, NHIDCL etc. or any other Ministry / PSU / State / Central Government or its Department/ Enforcement agencies/ Autonomous Body etc.
- vi. Undertaking that the bidder has not been blacklisted/declared ineligible by Ministry of Road Transport & Highways, Government of India or its executing agencies like IHMCL, NHIDCL etc. or any other Ministry / PSU / State / Central Government or its Department/ Enforcement agencies/ Autonomous Body etc.
- vii. Self-declaration concerning any conflict of interest prescribed under para 4.3 of eligibility criteria;
- viii. Other documents
 - a. Work Orders/Completion Certificates/Declarations in respect of Eligibility Criteria
 - b. Copy of Certificate of Incorporation of Company;
 - c. MoA and AoA of the Company / or other document showing object clause of the firm; and
 - d. Signed copy of Integrity Pact in the prescribed format;
 - e. Any other document providing additional information in respect of technical / financial strength as well as technical experience etc.
- ix. Technical Proposal (as per form T-9)
 - a. The Bidder shall describe the proposed works in sufficient detail in his Technical Proposal as per format given in T-9 to enable the IHMCL to evaluate the technical adequacy of the proposed system. Authority may ask

clarification, and if not found satisfactory response, the technical bid shall be declared non-responsive.

- b. Any other relevant information

6.3.2 PART 2 Financial Bid

(In the prescribed format on e-Tender portal of IHMCL)

- a. Financial bid shall be submitted online on e-tender portal on the prescribed format which may be downloaded well before the bid due date from e-tender portal.
- b. The bid should include all the charges payable in full compliance to the Scope of Work and other terms specified in the RFP document. No additional payments whatsoever are envisaged.
- c. The bid should include all statutory taxes/ levies / surcharge on tax etc. but excluding service tax/ GST (as applicable on services). Any tax, and / or any other levies, if altered in future and payable under the law, the same shall be borne by the bidder.
- d. applicable service tax/ GST (as applicable on services) shall be reimbursed by IHMCL separately on production of proof of payment; and
- e. Bidder should note that Income tax payable by the Bidder is not reimbursable by IHMCL. TDS will be applicable on all payments made by IHMCL as per applicable law.
- f. In case of any difference in figures and words, the amount mentioned in words will prevail.

NOTE: Original documents in physical form -Physical Submission of original Bid Security, POA for signing the Bid, POA in favor of lead member of JV, if any, JBA for JV, if any, Integrity Pact, and experience certificates apostle at foreign origin, if any **shall only be After declaration of Bid Evaluation Result** by the Authority. Bidders (including individual or any of its Joint Venture Members) failing to submit the original documents required as per above shall be unconditionally debarred from bidding in IHMCL projects for a period of 5 years.

6.4. COST OF BIDDING

The Bidder shall be responsible for all the costs associated with the preparation and submission of their Bids including subsequent negotiation, visits to IHMCL, project site etc. IHMCL shall not be responsible in any way liable for such costs, regardless of the conduct

or outcome of the bidding process.

6.5. LANGUAGE OF THE BIDS

The Bid and all communications in relation to or concerning the RFP shall be in **English language**. No supporting document or printed literature shall be submitted with the Bid unless specifically asked for and in case any of the documents are in another language, it must be accompanied by an accurate translation of the relevant passages in English, in which case, for all purposes of interpretations of the Bid, the original documents attached with the bid or the information incorporated in the bid shall be final and binding.

6.6 MODIFICATION /SUBSTITUTION/ WITHDRAWAL OF BIDS:

- (i) The Bidder may modify, substitute or withdraw its e-bid after submission prior to the Bid Due Date. No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date.
- (ii) Any alternative/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.
- (iii) For modification or e-bid, bidder has to click on Edit Bid Option and resubmit digitally signed modified bid.
- (iv) For withdrawal of bid, bidder has to click on withdrawal icon at e-tendering portal and can withdraw its e-bid.
- (v) 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.

6.7 OPENING & EVALUATION OF BIDS

- 6.7.1 Opening and evaluation of bids will be done through online process.
- 6.7.2 The bids will be opened online on the due date and time prescribed in the RFP document in the presence of the bidders who choose to attend. The Authority will subsequently examine and evaluate the bids in accordance with the provisions set out.
- 6.7.3 Prior to evaluation of bids, the Authority shall determine whether each Bid is responsive to the requirements of this RFP.
- 6.7.4 'Financial Bid' of non-responsive bidders shall not be opened.
- 6.7.5 To assist in the examination, evaluation, and comparison of Bids, IHMCL may, at its discretion, ask any Bidder for clarification of its Bid. The request for clarification and

the response shall be in writing or by fax or e-mail, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by IHMCL in the evaluation of the Bids.

- 6.7.6 Except in case any clarification is asked by IHMCL, no Bidder shall contact IHMCL on any matter relating to its Bid from the time of the Bid opening to the time the Contract is awarded. If any Bidder wishes to bring additional information to the notice of IHMCL, it should do so in writing at the address prescribed in the Notice Inviting Tender.

6.8 BID EVALUATION CRITERIA AND SELECTION PROCEDURE

- 6.8.1 The bids shall be opened online by the Evaluation Committee on the date and time prescribed. Prior to evaluation of the bids, IHMCL shall determine whether each bid is responsive to the requirements of this RFP document. A bid will be declared non-responsive in case:

- a) If a Bidder does not fulfil Technical and Financial pre-qualification criteria mentioned at 4.1
- b) If a bidder submits more than one bid against this RFP
- c) Bid is submitted without Tender Fee
- d) Bid is submitted without Bid Security
- e) If the Authorized Signatory holding Power of Attorney (POA) or the person executing/delegating such POA and Digital Signatory are not the same
- f) If a bidder submits a conditional bid or makes changes in the terms and conditions given in this RFP document
- g) Failure to comply with all the requirements of RFP document by a bidder
- h) If the bid is not submitted in the formats prescribed in the RFP document
- i) If any requisite document/ certificate is not in the prescribed format the same shall not be considered while evaluating the bids and the same may lead to bid being declared as non-responsive.
- j) A bid valid for a period shorter than prescribed in the RFP document.

- 6.8.2 A two-stage procedure shall be adopted for evaluation of the bids.

- 6.8.3 Bid Evaluation - First Stage: The Evaluation Committee shall carry out initial screening of technical bids by examining the statement of qualification, furnished by the Bidder in support of their fulfilment of eligibility against the criteria prescribed in

this RFP.

6.8.4 Deleted.

6.8.5 Bid Evaluation - Final Stage: In this stage, financial bids of only responsive Bidders shall be opened.

6.8.6 The Financial Bid Evaluation will be based on the Total Cost quoted by the Bidder in the Financial Bid.

6.8.7 If there is a discrepancy between words and figures, the amount in words shall prevail. If the Bidder does not accept the correction of errors, its Bid shall be rejected and the bid securing declaration will be invoked.

6.8.8 The Financial Bids shall be opened online.

6.8.9 Selection and award criteria:

IHMCL will award the Contract to the bidder whose Bid has been determined to be responsive and who has offered the lowest price.

6.8.10 The Successful Bidder shall be intimated by IHMCL through Letter of Award (LoA). Upon issue of LoA, the Successful Bidder shall be required to furnish Letter of Acceptance and Performance Security and other guarantees as prescribed in the RFP document. IHMCL shall have the right to get the bank guarantees verified from the respective issuing bank. Upon receipt of verification, the successful bidder shall be invited to sign the contract with IHMCL. The format of Contract Agreement is prescribed in the RFP Document.

6.8.11 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 of such bids.

6.9 ABNORMALLY LOW BID:

Further, in case where the bid of the successful firm is less than 85% of the average of all bids received, the successful consulting firm shall have to submit an Additional Performance Security (APS) in the form of a Bank Guarantee for 5% of the contract amount. The other requirements of APS are same as those of Performance Security, IHMCL may also 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.

6.10 PERFORMANCE SECURITY

6.10.1 Upon issue of a Letter of Award (LoA) by IHMCL, the Successful Bidder shall be

required to furnish an unconditional and irrevocable Performance Security in the form of a Performance Bank Guarantee (PBG) in the prescribed format *within a period of 15 days*. The PBG shall be for an amount of 5% of its Total Cost quoted in the financial bid and should be in favour of “Indian Highways Management Company Limited”, New Delhi. The Performance Security shall be valid for period of Six (6) years. In case the contract is extended, the Contractor shall extend the validity of PBG appropriately such that it remains valid until one year beyond completion of the contract.

6.10.2 The PBG from following banks shall only be accepted:

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

6.10.3 Deleted

6.10.4 In case of abnormally low Bid, the additional performance security shall be required to be submitted by the Successful Bidder as per clause 6.9, in addition to the 5% PBG, to ensure that it shall perform the contractual obligations to the satisfaction of IHMCL despite such lower bid value and this additional performance security shall also be treated as performance security for encashment/ forfeiture.

6.11 MISCELLANEOUS

1. 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.
- 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 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.
- d) **Conciliation:** The Parties shall attempt to select one of the experts from the list of empaneled 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.
- e) **Arbitration**
- a. Any Dispute which is not resolved amicably by conciliation, shall be finally settled by arbitration as set forth below:
 - b. The Dispute shall be referred to Society For Affordable Redressal of Disputes (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 Arbitration & Conciliation Act, 1996, as amended from time to time.
 - c. The seat of Arbitration shall be New Delhi and the language for all documents and communications between the parties shall be English.
 - d. The expenses incurred by each party in connection with the preparation, presentation, etc., of arbitral proceedings shall be borne by each party itself.
 - e. The arbitrators shall make a reasoned award (the "Award").
 - f. The Service Provider and IHMCL agree that an Award may be enforced against the Service Provider and/or IHMCL and their respective assets wherever situated.
 - g. 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.
2. The bidding process shall be governed by, and construed in accordance with, the laws of India and courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the bidding process.
3. IHMCL, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, too.
- (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 there to.
 - (ii) Consult with any bidder 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 all submissions or other information and/or evidence submitted by or on behalf of any bidder.
- 4. IHMCL is not bound to reply/ respond to any representation/ letter or request for Change in Scope of work, eligibility criteria or any relaxation in respect of the tender conditions.
- 5. 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 Law, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- 6. Verification and Dis-qualification: IHMCL reserves the right to verify all statements, information, and documents submitted by the bidder in response to this RFP, and the bidders shall, when so required by IHMCL, make available all such information, evidence, and documents as may be necessary for such verification. Any such verification or lack of such verification, by IHMCL shall not relieve the bidders of its obligations or liabilities hereunder, nor will it affect any rights of IHMCL thereunder.
- 7. IHMCL reserves the right to reject any Bid and/ or declare it non-responsive, if:
 - i. At any time, a material misrepresentation is made or uncovered, or
 - ii. The bidder does not provide, within the time specified by IHMCL, the supplemental information sought by IHMCL for evaluation of the Bid.
- 8. Such misrepresentation/ improper response shall lead to the disqualification of the bidder. If such disqualification/ rejection occurs after the bids have been opened and the lowest bidder gets disqualified/ rejected, then IHMCL reserves the right to take any such measure as may be deemed fit in the sole discretion of IHMCL, including annulment of the Bidding process.

6.12 Amendment to RFP Documents:

- (a) Any modification in the RFP document shall be made by IHMCL separately through issue of an Addendum/ Amendment.
- (b) At any time prior to the bid due date, IHMCL, may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the conditions specified in the RFP document by an amendment. Any amendment/ addendum thus issued shall be part of the RFP document and shall be communicated by hosting the same on IHMCL's web site only and should be taken into consideration by the prospective bidders while preparing their Bids.
- (c) In order to give prospective Bidders reasonable time to take the amendment into account in preparing their bid, IHMCL may, at its discretion, extend the bid due date.

- (d) The Bidder must read all the instructions in the RFP and abide by the same accordingly.

6.13 INDEMNITY

The Bidder shall, subject to the provisions of the Contract, indemnify IHMCL for any direct loss or damage caused on account of any act/ omission of the bidder.

6.14 PROPRIETARY DATA

- a) All documents and other information provided by IHMCL or submitted by a Bidder to IHMCL shall remain or become the property of IHMCL. Bidders are to treat all information as strictly confidential. IHMCL will not return any bid or any information related thereto. All information collected, analysed, processed or in whatever manner provided by the Successful Bidder to IHMCL in relation to the services shall be the property of IHMCL.
- b) The Contractor shall not keep any copy of the data/ video with them without prior permission of the IHMCL. The Contractor shall not use any data / video for any purpose other than that permitted by IHMCL.
- c) Adequate cyber security measures shall be taken to protect the entire system and data from cyber-attacks and data theft.

6.15 CORRUPT OR FRAUDULENT PRACTICES

IHMCL requires Bidder observe the highest standard of ethics during the procurement and execution of the Contract. In pursuance of this policy IHMCL:

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution;
 - (ii) "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 prices at artificial non-competitive levels and to deprive IHMCL of the benefits of free and open competition;
 - (iii) "Coercive Practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the bidding process;
 - (iv) "Undesirable Practice" means (i) Establishing contact with any person connected


with or employed or engaged by IHMCL with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the bidding process; or (ii) having a Conflict of Interest; and

- (v) "Restrictive Practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the bidding process.
- (b) will reject a bid if it determines that the Bidder has engaged in corrupt or fraudulent or coercive or undesirable or restrictive practices in competing for the Contract in question;
- (c) will blacklist/ declare a bidder ineligible, either indefinitely or for a stated period of time, to be awarded any Contract by IHMCL if it at any time determines that the bidder has engaged in corrupt or fraudulent or coercive or undesirable or restrictive practices in competing for, or in executing, a IHMCL Contract.

6.16 Integrity Pact:

Bidder shall comply with the provisions of the Office Memorandum No. 13030/09/2008-Vig. Dated 28.01.2013 issued by NHAI (Copy enclosed) at **Appendix-I**.

6.16.1 Appendix-I


	<p>भारतीय राष्ट्रीय राजमार्ग प्राधिकरण (सड़क परिवहन और राजमार्ग विभाग) National Highways Authority of India (Ministry of Road Transport and Highways) पी-5 एवं 6, सेक्टर-10, द्वारका, नई दिल्ली-110075 G-5 & 6, Sector-10, Dwarka, New Delhi-110075</p>	<p>दस्तावेज / Project: NH-11/25074/100750/14206 फैसल / Fee: 91-11-25030507 / 25030514</p>
<p>NO.13019/8/2009-Vig.</p> <p style="text-align: center;"><u>Office Memorandum</u></p>		<p>Dated : 28th January, 2013</p>
<p><u>Sub: Adoption of Integrity Pact (IP) for NHAI Projects-reg.</u></p>		
<p>In suppression of OM No. NHAI/CM/C/IP/IEM/2011-12 dated 13.08.2012 and OM of NHAI/CM/C/IP/IEM/2011-12 dated 14.08.2012, it has been decided to implement the concept of Integrity Pact in NHAI projects. The Integrity Pact (IP) envisages an agreement between the prospective bidder and the buyers committing the persons/officials of both the parties, not to exercise any corrupt influence on any aspect of the contract. The IP also envisages empanelment of Independent External Monitors (IEM). The IEM may review independently and objectively whether and to what extent parties have complied with their obligations under the pact.</p>		
<p>2. NHAI is going to appoint IEM shortly for implementation of the IP in NHAI. MoRT&H vide its letter no. C-13019/8/2009-Vig. dated 18.11.2011 has approved applicability of adoption of IP in NHAI works as mentioned below:</p>		
<p>(i) Civil Works above Rs.100.00 crore (ii) Services such as consultancy, engineering etc. above Rs.5.00 crore</p>		
<p>3. In this connection, all the officers of NHAI are hereby requested to implement and follow the concept of IP and adopt the same in all future projects of NHAI as scrupulously in works included in para.2 above as per Model Agreements (copy enclosed) for each category. This Model Agreement would be provided to the bidders at NIT/ Pre-bid /Technical bid stage, whichever applicable, with instruction to submit the same after signing it. Contractor/ concessionaire / consultant / bidder would be required to submit this duly signed agreement (signed by the same signatory competent/authorized to sign the relevant contract agreement) along with their Technical Bid/Tender Documents. The representative authorized to sign contract agreement, on behalf of NHAI, would sign the same while signing the contract so that this may be made a part of the contract document and binding for both the parties signing the contract.</p>		
<p>4. It is clarified that IP should cover all phases of the contract, i.e. from the stage of Notice Inviting Tender (NIT) / pre-bid stage till the conclusion of the contract, i.e. the final payment or the duration of warranty / guarantee / defect liability / concession period, whichever applicable. The IEM would be, invariably, cited in the NIT. Further, information relating to tender in progress and under finalization would need to be shared with IEM on monthly basis.</p>		
<p>(Sd/-)</p>		<p>contd. 2.</p>

5. After implementation of Integrity Pact, NHAI has to send progress/status in the implementation of IP enabling CVC to include the same in their annual report as prescribed in the CVC circular no. 10/5/09 dated 18.05.2009 and subsequent circular no.31/08/10 dated 13.08.2010 (copies enclosed). Further, an internal assessment of the impact of IP shall be carried out periodically by the CVO and reported to the CVC through their report or special report, wherever necessary. In view of this, status of implementation of IP would be reported by all divisions to CVO on monthly basis.

6. All the Divisions engaged in purchase/procurement shall ensure strict compliance of this.

This issues with the approval of Chairman, NHAI.

- Encl: (1) Model Agreement for category (i) works
(2) Model Agreement for category (ii) works
(3) CVC's Circular no. 10/5/09 dt. 18.05.09
(4) CVC's Circular no.31/08/10 dt.13.08.10


(B.N.Sahay)
General Manager (CMC)

To

1. All PIUs/CMUs
2. All ROs
3. All CGMs at HQ
4. All GMs at HQ
5. CVO, NHAI

Copy for information to:

1. PS to Chairman
2. All PS to Members

6.16.2 INTEGRITY PACT FORMAT

(To be executed on plain paper and submitted along with Technical Bid. To be signed by the bidder and same signatory competent/ authorized to sign the relevant contract on behalf of IHMCL)

RFP No. IHMCL/VMECS/2026 dated 18/04/2026

This Integrity Pact is made at _____ on this _____ day of ____ 2026

Between

Indian Highways Management Company Limited (IHMCL), incorporated under Companies Act 1956, having its office at Asia Bhawan, Sector-09, Dwarka, New Delhi, hereinafter referred to as **"The Principal"**, which expression shall unless repugnant to the meaning or context thereof include its successors and permitted assigns.

And

_____, hereinafter referred to as **"The Bidder/ Contractor/ Contractor"** and which expression shall unless repugnant to the meaning or context thereof include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedures contract/s for The Principal values full Compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s)/ Contractor(s)/ Contractor(s).

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions of which shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnessed as under:

Article 1- Commitments of the Principal

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal, personally or through family members, will in connection with the tender for or the execution of a contract, demand, take a promise for or accept

for self or third person any material or immaterial benefit which the person is not legally entitled to.

- (b) The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular before and during the tender process provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - (c) The Principal will exclude all known prejudiced persons from the process, whose conduct in the past has been of biased nature.
- (2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/ Regulations.

Article 2- Commitments of the Bidder(s)/ Contractor(s)/ Contractor(s)

The Bidder(s)/ Contractor(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- (a) The Bidder(s)/ Contractor(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- (b) The Bidder(s)/ Contractor(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- (c) The Bidder(s)/ Contractor(s)/ Contractor(s) will not commit any offence under the relevant IPC/ PC Act and other Statutory Acts; further the Bidder(s)/ Contractor(s)/ Contractor(s) will not use improperly, for purposes of completion or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details,

including information contained or transmitted electronically.

- (d) The Bidder(s)/ Contractor(s)/ Contractor(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India, if any. Similarly, the Bidder(s)/ Contractor(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principle, if any.
- (e) The Bidder(s)/ Contractor(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.
- (f) The Bidder(s)/ Contractor(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (g) The Bidder(s)/ Contractor(s)/ Contractor(s) will not bring any outside influence through any Govt. bodies/ quarters directly or indirectly on the bidding process in furtherance of his bid.

Article 3- Disqualification from tender process and exclusion from future contracts

- (1) If the Bidder(s)/ Contractor(s)/ Contractor(s) before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s)/ Contractor(s) from the tender process.
- (2) If the Bidder(s)/ Contractor(s)/ Contractor(s) have committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder(s)/ Contractor(s)/ Contractor(s) for any future tender/ contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder(s)/ Contractor(s)/ Contractor(s) and the amount of the damage. The exclusion will be imposed for a minimum of 1 year.
- (3) A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that "On the basis of facts available there are no material doubts".
- (4) The Bidder(s)/ Contractor(s)/ Contractor(s) with its free consent and without any influence agrees and undertakes to respect and uphold the Principal's absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to

such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

- (5) The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder/ Contractor/ Contractor shall be final and binding on the Bidder/ Contractor/ Contractor.
- (6) On concurrence of any sanctions/ disqualification etc. arising out from violation of integrity pact the Bidder/ Contractor/ Contractor shall not be entitled for any compensation on this account.
- (7) Subject to full satisfaction of the Principal, the exclusion of the Bidder/ Contractor/ Contractor could be revoked by the Principal if the Bidder/ Contractor/ Contractor can prove that he has restored/ recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article 4- Compensation for Damages

- (1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article 3, the Principal shall be entitled to invoke the bid securing declaration apart from any other legal right that may have accrued to the Principal.
- (2) In addition to 1 above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor/ Contractor's Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor/ Contractor and/or demand and recover liquidated and all damages as per the provisions of the Contract Agreement against Termination.

Article 5 - Previous Transgressions

- (1) The Bidder declares that no previous transgressions occurred in the last 3 years immediately before signing of this Integrity Pact with any other Company in any country conforming to the anti-corruption/ Transparency International (TI) approach or with any other Public Sector Enterprise/ Undertaking in India or any Government Department in India that could justify his exclusion from the tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgressions of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article 6 - Equal treatment of all Bidder(s)/ Contractor(s)/ Contractor(s)/ Subcontractor(s)

- (1) The Bidder(s)/ Contractor(s)/ Contractor(s) undertake(s) to demand from all sub-

contractor(s) a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

- (2) The Principal will enter into agreements with identical conditions as this one with all Bidder(s)/ Contractor(s)/ Contractor(s) and Subcontractor(s).
- (3) The Principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Article 7 - Criminal charges against violating Bidder(s)/ Contractor(s)/ Contractor(s)/ Sub-contractor(s)

If the Principal obtains knowledge of conduct of a Bidder/ Contractor/ Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder/ Contractor/ Contractor or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article 8 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor/ Contractor 12 months after his Defect Liability Period is over or 12 months after his last payment under the contract whichever is later and for all other *unsuccessful* Bidders 6 months after the Contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by Chairman of IHMCL.

Article 9 - Other Provisions

- (1) This Pact is subject to Indian Law Place of performance and jurisdiction is the Registered Office of the Principal i.e. New Delhi.
- (2) Changes and supplements as well as termination notices need to be made in writing.
- (3) If the Bidder/ Contractor/ Contractor is a partnership or a consortium, this pact must be signed by all partners or consortium members.
- (4) Should one or several provisions of this Agreement turn out to be invalid, the remainder of this Agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) Any disputes/ differences arising between the parties with regard to term of this Pact, any action taken by the Principal in accordance with this Pact or any relation thereof shall not be subject to any Arbitration.

Indian Highways Management Company Limited

- (6) The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pact at the place and date first donementioned in the presence of following witnesses:

[For & On behalf of the (Principal)]

[For & On behalf of the Bidder/ Contractor/
Concessionaire/ Consultant]

(Office Seal)

Place:.....

Date: _____

Witness 1:

(Name & Address) _____

Witness 2:

(Name & Address) _____

PART-II - FORMATS FOR BID SUBMISSION

Form T-1: Technical Bid Covering Letter

(To be prepared on letterhead of the Bidder, scanned & uploaded on E-tender portal)

To,

Chief Operating Officer
Indian Highways Management Company Limited
Asia Bhawan, Sector-09, Dwarka,
New Delhi – 110077

Sub.: RFP for the selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region.

Ref: RFP No.....on above subject.

Dear Sir,

1. I/We, the undersigned, have carefully examined the contents of the above referred RFP document including amendments/ addendums (if any) thereof and we undertake to fully comply and abide by the terms and conditions specified therein and hereby submit our Bid for the aforesaid service. Our bid for the subject RFP is unconditional and unqualified.
2. I/We offer to execute the work in accordance with the Scope of work and the Conditions of Contract of this RFP both explicit and implied.
3. I/We undertake that, in competing for (and, if the award is made to us), for executing the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".
4. I/We understand that:
 - a. This bid, if found incomplete in any respect and/ or if found with conditional compliance or not accompanied with the requisite Bid Securing Declaration, shall

be summarily rejected.

- b. If at any time, any averments made or information furnished as part of this bid is found incorrect, then the bid will be rejected and the contract if awarded on the basis of such information shall be cancelled.
- c. IHMCL is not bound to accept any/ all Bid(s) it will receive.
- d. Until a contract is executed, this bid together with RFP Document as well as notification of Letter of Award issued by IHMCL shall constitute a binding Contract between us.

5. I/We declare that:

- a. I/we have no proceeding for insolvency/bankruptcy in NCLT / Court as on Bid Due Date
- b. I/We have not been blacklisted/ *declared ineligible* by IHMCL or National Highways Authority of India (NHAI) or Ministry of Road Transport & Highways, Government of India or any other agency as on Bid Due date. I/We also confirm that I/We have not been *declared as non-performing or debarred* by IHMCL or NHAI or Ministry of Road Transport & Highways, Government of India as on Bid Due Date.
- c. I/We *haven't been blacklisted* by a Central/ State Government Institution/ Public Sector Undertaking/ Autonomous body and there has been *no litigation* with any Government Department/ PSU/ Autonomous body on account of similar services as on Bid Due Date.
- d. I/We have *not* directly or indirectly or through an agent *engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice*, as defined in the Contract Agreement, in respect of any tender or request for proposal issued by or any Contract entered into with IHMCL or any other public sector enterprise or any government, Central or State; and I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of the RFP document, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

- 6. I/We undertake that we have deployed our own integrated software which is integrated with the subsystems and the same is in operation since last one year from bid due date. All IPR, source code etc. of the software are owned by the Sole Bidder / either member of Consortium, Documentary evidence shall be submitted along with the bid confirming the ownership and the operational period of more than one year.

7. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the Contract Agreement, in respect of any
8. In the event of my / our bid being declared as successful bid, I/we agree to enter into a Contract Agreement in accordance with the format of the Contract Agreement. I/We agree not to seek any change in the aforesaid format of the Contract Agreement and agree to abide by the same.
9. I/We certify that:
 - a. I/We have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the subject work or which relates to a grave offence that outrages the moral sense of the community.
 - b. Neither the bidder nor any of its Directors are the subject of criminal or civil proceedings that could be expected to adversely affect its business or its ability to bid in the present tender.
 - c. No investigation by a regulatory authority is pending either against us or against our CEO or any of our directors/ managers/ employees.
 - d. I / We don't have any conflict of interest in terms of Clause 4.3 of eligibility criteria defined in this RFP document.
 - e. The information provided in this technical bid (including the attachments) as well as the financial bid is true, accurate and complete to the best of my knowledge and belief. Nothing has been omitted which renders such information misleading; and all documents accompanying my/our bid are true copies of their respective originals. I/We shall be liable for disqualification or termination of contract at any stage, if any information/ declaration is found to be incorrect or false. I/We will intimate IHMCL promptly in case of any change in the information submitted as part of this technical bid.
 - f. I/We offer the cost of the RFP document and bid Security in accordance with the RFP document as per the details furnished below:

	Reference No.	Date	Amount (Rs.)	Issuing Bank/ Branch
--	--------------------------	-------------	-------------------------	---------------------------------

Indian Highways Management Company Limited

Tender Fee				
Bid Security				

10. The documents in original accompanying the bid document have been submitted in a separate envelope as envisaged in the RFP document and marked appropriately.
11. I am the Director / Authorized Signatory of the aforesaid company / firm and I am authorized to sign this bid on behalf of the firm / company. I am submitting this bid after carefully reading all the terms and conditions contained in the RFP document and its addendum/ amendment, if any, and undertake to abide by the same. It is also certified that the bid is being submitted in the prescribed formats without any addition / deviation / alteration and our bid is unconditional.

We remain, Yours sincerely,

Name

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

Form T-2: Brief Information about the Bidder(s)

(To be prepared on letterhead of the Bidder, scanned & uploaded on E-tender portal)

Sub.: RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region

Ref: RFP No. on above subject.

1)

a) Name of Bidder:

b) Year of establishment:

c) Constitution of the bidder entity e.g. Government enterprise, private limited company, limited company, proprietorship / partnership firm etc.

d) In case of a government enterprise, please indicate as to whether legally and financially autonomous and operate under commercial law.

e) Name(s) of Directors/ Proprietors/ Partners Yes/ No/ Not applicable

.....

.....

.....

2) Address for correspondence with Telephone/ Fax numbers/ e-mail address:

(a) Complete postal address:

(b) Fixed telephone number

(c) Mobile telephone number

(d) E-mail address

3) Name & Address of the principal banker:

(a) Bank A/c Number

(b) Branch Address

(c) IFSC /MICR Code:

4. Name of the Statutory Auditor/ Company Secretary/ Chartered Accountant certifying the documents along with his/ her Membership number, if applicable:
5. I/We hereby undertake that we have successfully implemented and/or completed large-scale IT/ICT project(s) involving end-to-end system implementation and Operation & Maintenance (O&M) in India or abroad, during the last seven (7) years preceding the Bid Due Date. **Supporting documents are enclosed.**

Name

Designation of the Authorized Signatory

Note: In case of JV/ Consortium, the aforesaid information shall be required for each member of the JV/ Consortium separately.

Form T-3: Power of Attorney

(on non-judicial Stamp Paper of appropriate denomination)

Know all men by these presents, we, (name of Company and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr / Ms. son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of as our true and lawful attorney (hereinafter referred to as the "Authorized Signatory or Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for selection as the Contractor for "RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region" proposed by Indian Highways Management Company Limited, including but not limited to signing and submission of all applications, bid(s) and other documents and writings, and providing information/ responses to IHMCL, representing us in all matters before IHMCL, signing and execution of all contracts and undertakings consequent to acceptance of our bid and generally dealing with IHMCL in all matters in connection with or relating to or arising out of our Bid for the said Tender and/or upon award thereof to us.

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

IN WITNESS WHEREOF WE, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2026

For

(Signature, name, designation and address)

Witnesses:

1.

2.

Notarised

Accepted

.....

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

Notes:

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

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

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

Form T-4: Power of Attorney for Lead Member of JV/ Consortium

Whereas the Indian Highways Management Company Limited (“Authority”) has invited bids from interested parties for the *Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region* (“the Project”).

Whereas,, and (collectively the “JV/ Consortium”) being Members of the JV/ Consortium are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposal and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members of the JV/ Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the JV/ Consortium, all acts, deeds and things as may be necessary in connection with the JV/ Consortium’s bid for the Project and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, M/s. having our registered office at, M/s., having our registered office at, and M/s., having our registered office at,

(hereinafter collectively referred to as the “Principals”) do hereby irrevocably designate, nominate, constitute, appoint and authorise M/s., having its registered office at, being one of the Members of the JV/

Consortium, as the Lead Member and true and lawful attorney of the JV/ Consortium (hereinafter referred to as the “Attorney”) and hereby irrevocably authorise the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the JV/ Consortium and any one of us during the bidding process and, in the event the JV/ Consortium is awarded the Contract, during the execution of the Project, and in this regard, to do on our behalf and on behalf of the JV/ Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Letter of Award, participate in bidders’ and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the JV/ Consortium and generally to represent the JV/ Consortium in all its dealings with the Authority, and/ or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the JV’s/ Consortium’s bid for the Project and/ or

Indian Highways Management Company Limited

upon award thereof till the Contract is entered into with the Authority and Completed.

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

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF 20.....

For

(Signature, Name & Title)

Indian Highways Management Company Limited

For

(Signature, Name & Title)

For

(Signature, Name & Title)

Witnesses:1.

2.

(Executants)

(To be executed by all the Members of the Consortium)

Notes:

- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure. **The Power of Attorney should be executed on a non-judicial stamp paper of appropriate denomination and should be duly notarised by a notary public.***
- *Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*

Form T-5: Joint Bidding Agreement for JV/ Consortium

(To be executed on Stamp paper of appropriate value)

THIS JOINT BIDDING AGREEMENT is entered into on this the day of20...

AMONGST

1. {..... Limited, and having its registered office at } (hereinafter referred to as the **"First Part"** which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2. {..... Limited, having its registered office at } and (hereinafter referred to as the **"Second Part"** which expression shall, unless repugnant to the context include its successors and permitted assigns)

The above mentioned parties of the FIRST, {SECOND PART are collectively referred to as the **"Parties"** and each is individually referred to as a **"Party"** WHEREAS,

- (A) THE INDIAN HIGHWAYS MANAGEMENT COMPANY LIMITED, incorporated under Companies Act 1956, and having its principal offices at Asia Bhawan, Sector -09, Dwarka, New Delhi-110077 (hereinafter referred to as the **"Authority"** which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited bids (the **Bids**) by its Request for Proposal No (the **"RFP"**) for award of contract for "RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region." (the **"Project"**).
- (B) The Parties are interested in jointly bidding for the Project as members of a JV/ Consortium and in accordance with the terms and conditions of the RFP document and other bid documents in respect of the Project, and
- (C) It is a necessary condition under the RFP document that the members of the JV/ Consortium shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Bid.

NOW IT IS HEREBY AGREED as follows

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.

2. Consortium

- 2.1 The Parties do hereby irrevocably constitute a JV/ consortium (the “**JV/ Consortium**”) for the purposes of jointly participating in the Bidding Process for the Project.
- 2.2 The Parties hereby undertake to participate in the Bidding Process only through this JV/ Consortium and not individually and/ or through any other JV/Consortium constituted for this Project, either directly or indirectly or through any of their Associates.

3. Covenants

The Parties hereby undertake that in the event the Joint Venture is declared the selected Bidder and awarded the Project, it shall enter into an Contract Agreement with the Authority for performing all its obligations as the Contractor in terms of the Contract Agreement for the Project.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

- (a) Party of the First Part shall be the Lead member of the Consortium and shall have the power of attorney from all Parties for conducting all business for and on behalf of the Consortium during the Bidding Process and till the completion of Project as per Contract Agreement;
- (b) Party of the Second Part shall be {the_____Member of the Consortium;}

5. Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP and the Contract Agreement, till

such time as the completion of the Project is achieved under and in accordance with the Contract Agreement.

6. Stakes in the JV/ Consortium

The Parties agree that the proportion of stakes among the Parties in the JV/ Consortium shall be as follows:

First Party:

Second Party:

7. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

- (a) Such Party is duly organised, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;
- (b) The execution, delivery and performance by such Party of this Agreement has been authorised by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the JV/ Consortium Member is annexed to this Agreement, and will not, to the best of its knowledge:
 - (i) require any consent or approval not already obtained;
 - (ii) violate any Applicable Law presently in effect and having applicability to it;
 - (iii) violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof;
 - (iv) violate any clearance, permit, concession, grant, license or other governmental authorisation, approval, judgement, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or
 - (v) create or impose any liens, mortgages, pledges, claims, security interests, charges or Encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations

under this Agreement;

- (c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and
- (d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Affiliates is a party that presently affects, or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.

8. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until completion of the Project is achieved under and in accordance with the Contract Agreement, in case the Project is awarded to the JV/ Consortium. However, in case during the execution of the contract it is substantiated that the JV/ Consortium is not actually qualified for the Project and submitted false information, the Agreement will stand terminated and damages as deemed fit by the Authority shall be levied on the contractors.

9. Miscellaneous

- 9.1 This Joint Bidding Agreement shall be governed by laws of India.
- 9.2 The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Authority.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND
DELIVERED

For and on behalf

SIGNED, SEALED AND
DELIVERED

LEAD MEMBER by:

SECOND PART

(Signature)(Name)

(Designation)

(Address)

(Signature)

(Name)

(Designation)

(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of THIRD PART

(Signature)

(Name)

(Designation)

(Address)

In the presence of:

- 1.
- 2.

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure. ***The Power of Attorney should be executed on a non-judicial stamp paper of appropriate denomination and should be duly notarised by a notary public.***
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Consortium Member.

Form T-6: Format of submission of Work Experience / Technical Strength of Bidder

Sub.: RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region.

Ref: RFP No. on above subject.

Client Details Client Name: Address: Name of Contact Person: Contact No. Contact E-mail ID. (official e-mail ID)		Name of Work / Project ⁴
		Location:
		Approximate Value of Work / Project (INR)
Start Date		Present Status of Project (as per the Bidders mandate)
Completion Date		
Present Status		
Application Users		
Name of Persons Deployed (Key Persons only)		
Detailed features of Project Executed: 		

Name

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

Dated: / /2026

Note: Bidder should submit relevant details of each projects in this format and should enclose:

- i) Go-live / acceptance / completion Certificate issued by the customer; and*
- ii) Work Order / Purchase order / Copy of contract / Letter of Award highlighting detailed scope of project implemented within the last 7 financial years prior to the Bid due date as proof for the same.*

⁴ Please furnish duly filled Form T-6 in support of each relevant project experience claimed

Form T-7 Undertaking for OEM

Subject: **System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region**

Ref: RFP No. on above subject.

I/we undertake the following:

- 1) That the OEM(s) is having direct presence in India since **last three years** as on Bid due date and own service and support offices to ensure smooth after sales service support on site.
- 2) That I/we fully comply with the Office Memorandum no. F. No. NH-35014/20/2020-H, Government of India, Ministry of Road Transport & Highways dated 04.08.2020, regarding Department of Expenditure (DoE), Ministry of Finance, Govt. of India O.M. No. 6/18/2019-PPD dated 23.07.2020, vide which Rule 144 of the general Financial Rules 2017 entitled "Fundamental principles of public buying" has been amended by inserting sub-rule 144 (xi) in the General Financial Rules (GFRs), 2017 which states that:
- 3) "Any bidder from a country which shares a land border with India will **be** eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority." This condition shall also be applicable on sub-contracting of any works / goods / services, etc. The Bidder shall furnish the registration status of the sub-contractor/ supplier with Competent Authority (for the items / goods proposed to be procured from any country which shares a land border with India).
- 4) That the OEM(s) should not be rebranding & reselling products in India through importing/ trading from a country that shares a Land Border with India.
- 5) That the source code of the Software and Firmware being supplied for all the relevant equipment being supplied against this bid does not reside in any Country that shared a Land Border with India
- 6) That the OEM(s) for all active components will give a declaration that products or technology quoted are neither end-of- sale nor end-of-life as on the date of installation and commissioning and are not end-of-support till the successful completion of O&M period of the project.
- 7) That the Bidder shall NOT propose more than **four** make/model, for each of the component. Make model shall be specific and any equivalent is not allowed. Providing more than four make / model in the technical proposal (T-9) shall make the bid liable to be rejected
- 8) That the proposed OEM is not blacklisted by any State / Central Government Department or Central /State PSUs as on bid submission date.
- 9) That each of the proposed OEM(s) has existing capability and infrastructure to provide 24x7x365 technical

support in India.

10) Adequate supporting documents pertaining to the above points, along with a summary compliance table, should be submitted in the technical proposal (Form T-9) by the Bidder.

11) (Signature of the Power of Attorney Holder)

Form T-8 Format of Certificate in respect of Bidder's Average Annual Turnover and Net Worth

CERTIFICATE (To be given by a Statutory Auditor)

Sub.: System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region

Ref: RFP No. on above subject.

Dated: /...../2026

Certificate of Annual Turnover and Net Worth

It is certified that we have examined the audited books of accounts of M/s. _____ (*name and address of the bidder*) _____ and the details of the annual turnover during the last three financial years and net worth as on 31.03.2025 are as under:

a) Annual Turnover from Information Technology / Communication Technology / System Integration Business

Amount in Rs.

Financial Year	Amount figures	in	Updation factor (B)	Updated figures	Amount	in
FY 2022-23	A1		1.1	B1=A1*1.10		
FY 2023-24	A2		1.05	B2=A2*1.05		
FY 2024-25	A3		1	B3=A3*1.00		
Average of 3 years				#VALUE!		

B) Net Worth *Amount in Rs.*

As on	Amount in figures	Amount in words
31.03.2025		

Indian Highways Management Company Limited

The break-up of above mentioned Net worth is mentioned below:

S. No.	Particulars	Amount as on 31.03.2025 (Rs. in Crore)
1.	Aggregate value of the paid-up share capital	XXX
2.	Add: all reserves created out of the profits	XXX
3.	Add: securities premium account	XXX
4.	Less: aggregate value of the accumulated losses	XXX
5.	Less: deferred expenditure	XXX
6.	Less: miscellaneous expenditure not written off	XXX
	NET WORTH (1+2+3-4-5-6-7)	XXX

Note: The reserves created out of revaluation of assets, write back of depreciation and amalgamation have been excluded in the aforesaid calculation.

(Signature of Statutory Auditor) Name:

Seal:

Place:

For (Name of Accounting Firm)

Name of Partner/Proprietor

Membership Number

Rubber Stamp

Form T-9 Format for Submission of Detailed methodology and technical work plan Supported with broad system architecture and design.

Sub.: System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region.

Ref: RFP No. on above subject.

NOTE:

i. Submission under this item is subject to evaluation under technical bid, while giving information, the bidders are advised to strictly focus and address the topic/sub-topic as asked for in a structured manner. Any superfluous submission shall be at bidders' risk.

ii. IHMCL/IHMCL's Representative may seek clarification on any of the submission made by the bidder in form T-9. Any superfluous submission or inconsistent clarification with respect to site condition, is liable to make the bid non-responsive.

Dated: /...../2026

i. System design document for field systems with a List of items with quantity of equipment:

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ii. Command & Control Center Hardware design document with a list of items with quantity Software architecture & components

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iii. Methodology of implementation:

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iv. Equipment Delivery Schedule and Time schedule to complete the entire work supported with Bar Chart, including the civil works for VMECS:

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v. Make, model, specs, and Brochure of all major components (hardware & software)*:

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vi. Any other aspects the Bidder may wish to add:

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*Any equipment/hardware not conforming to OEM criteria given in RFP shall make the bid liable to be rejected.

Form T-10 PROFORMA FOR SUBMITTING WRITTEN QUERIES

(To be submitted in doc/editable format only at the given email address⁵)

Sub.: RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region.

Ref: RFP No. on above subject.

Dated: /...../2026

Name of Company: _____,

Name of Person _____

Contact No. _____,

Email Id: _____

Sr. No.	Page no. of RFP	Clause	RFP Statement	Query	Remarks

Form T-11 Bank Guarantee for Bid Security

(Refer Clauses 3.2 of General Terms of Bidding in Section -I of RFP)

B.G.No.

Dated:

1. In consideration of you, ****, having its office at **** (hereinafter referred to as the "Authority", which expression shall, unless it be repugnant to the subject or context thereof, include its successors and assigns), having agreed to receive the BID of and having its registered office at (and acting on behalf of its JV) (hereinafter referred to as the "Bidder", which expression shall, unless it be repugnant to the subject or context thereof, include its/their executors, administrators, successors, and assigns), for **Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region** (hereinafter referred to as "the Project") pursuant to the RFP Document dated issued in respect of the Project and other related documents, including without limitation the draft contract Agreement (hereinafter collectively referred to as "Bidding Documents"), we (Name of the Bank) having our registered office at and one of its branches at (hereinafter referred to as the "Bank"), at the request of the Bidder, do hereby, in terms of Clause 3.2 read with Clause 3.3 of the RFP Document, irrevocably, unconditionally, and without reservation guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Bidding Documents (including the RFP Document) by the said Bidder and unconditionally and irrevocably undertake to pay forthwith to the Authority an amount of Rs. ***** (Rupees ***** only) (hereinafter referred to as the "Guarantee") as our primary obligation without any demur, reservation, recourse, contest, or protest and without reference to the Bidder if the Bidder shall fail to fulfil or comply with all or any of the terms and conditions contained in the said Bidding Documents.
2. Any such written demand made by the Authority stating that the Bidder is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents shall be final, conclusive, and binding on the Bank.
3. We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest, or protest and without any reference to the Bidder or any other person and irrespective

of whether the claim of the Authority is disputed by the Bidder or not, merely on the first demand from the Authority stating that the amount claimed is due to the Authority by reason of the failure of the Bidder to fulfil and comply with the terms and conditions contained in the Bidding Documents, including failure of the said Bidder to keep its BID open during the BID validity period set forth in the said Bidding Documents for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. *** ** (Rupees *** ** only).

4. This Guarantee shall be irrevocable and remain in full force for a period of 180 (one hundred and eighty) days from the BID Due Date inclusive of a claim period of 60 (sixty) days or for such extended period as may be mutually agreed between the Authority and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all amounts under this Guarantee have been paid.
5. We, the Bank, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents, including, inter alia, the failure of the Bidder to keep its BID open during the BID validity period set forth in the said Bidding Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, Tribunal, Arbitrator, or any other Authority.
6. The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger, or amalgamation of the Bidder or the Bank with any other person.
7. In order to give full effect to this Guarantee, the Authority shall be entitled to treat the Bank as the principal debtor. The Authority shall have the fullest liberty, without affecting in any way the liability of the Bank under this Guarantee, from time to time to vary any of the terms and conditions contained in the said Bidding Documents or to extend the time for the submission of the BIDs or the BID validity period or the period for conveying acceptance of the Letter of Award by the Bidder or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said Bidding Documents by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the

said Bidding Documents or the securities available to the Authority, and the Bank shall not be released from its liability under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the Authority or any indulgence by the Authority to the said Bidder or by any change in the constitution of the Authority or its absorption, merger, or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.

8. Any notice by way of request, demand, or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
9. We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address] and delivered at our above branch, which shall be deemed to have been duly authorized to receive the said notice of claim.
10. It shall not be necessary for the Authority to proceed against the said Bidder before proceeding against the Bank, and the guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which the Authority may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealized.
11. We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the Authority in writing.
12. The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein; the undersigned is duly authorized and has full power to execute this Guarantee for and on behalf of the Bank.
13. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs. *** crore (Rupees ***** crore only). The Bank shall be liable to pay the said amount or any part thereof only if the Authority serves a written claim on the Bank in accordance with paragraph 9 hereof, or before [*** (indicated date falling 180 days after the BID Due Date)].
14. This guarantee shall also be operatable at our Branch, New Delhi from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall

Indian Highways Management Company Limited

be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

15. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of [Ministry/IHMCL/NHIDCL/State PWD/BRO], details of which is as under:

S.No.	Particulars	Details
1.	Name of Beneficiary	Indian Highways Management Company Limited
2.	Name of Bank	Canara Bank
3.	Account No.	8598201005819
4.	IFSC	CNRB0008598

Signed and Delivered by Bank

By the hand of Mr. /Ms.....,its and authorised official.

(Signature of the Authorised Signatory)

(Official-Seal

(See Clauses 6.10 of Instruction to Bidders)

Form T-12 Format of Bank Guarantee

Performance Security/Additional Performance Security]

The COO IHMCL,
Indian Highways Management Company Limited
New Delhi
WHEREAS:

- (A) _____ [name and address of contractor] (hereinafter called the “**Contractor**”) and Indian Highways Management Company Limited, Asia Bhawan, Sector 09, Dwarka, New Delhi - 110077, (hereinafter called the “**Authority**”) have entered into an agreement (hereinafter called the “**Agreement**”) for “*Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region*” subject to and in accordance with the provisions of the Agreement
- (B) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Construction Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs..... cr. (Rupees crore) (the “**Guarantee Amount**”).
- (C) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (*hereinafter called the “**Guarantee**”*) by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor’s obligations during the {Construction Period/ Defects Liability Period and Maintenance Period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of General Manager

in the Indian Highways Management Company Limited, that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect on ****\$. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
12. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
13. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of IHMCL, details of which is as under:

\$ Insert date being 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 7.2 of the Agreement).

Indian Highways Management Company Limited

S. No.	Particulars	Details
1.	Name of Beneficiary	Indian Highways Management Company Limited
2.	Name of Bank	Canara Bank
3.	Account No.	8598201005819
4.	IFSC Code	CNRB0008598

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by: (Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Form T-13 - Bid Securing Declaration Form

(To be submitted by Bidder on the Letter head)

Date: _____

RFP Ref. _____

To,
COO,
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 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.
- c. 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 of
(insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing he Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Form F-1: Format for Financial Bid Submission

(For sample only, actual Format to be downloaded from e-tender portal for on-line submission)

<p align="center">RFP for the Selection of System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region Tender No. IHMCL/VMECS/2026 Date – 18.04.2026</p>	
<p align="center">Summary of Price Schedule</p>	
<p>Name of the Bidder:</p>	
<p>Dear Sir,</p> <p>I/We, the undersigned having examined the above referred RFP including addendums thereof and, hereby offer to submit our bid to undertake the subject assignment with total bid value as per milestone and break-up furnished below.</p>	
<p>Form F-1: Format for Financial Bid Submission</p>	
<p align="center">Work Description</p>	<p align="center">Quoted Price (=Grand Total of Form F-2) (in Rupees)</p>
<p align="center">Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region</p>	

<p>Instructions:</p>	
<p>1. L1 shall be based on the Quoted Price (=Grand Total of Form F-2) in Rupees) in this sheet which is the total price quoted by the bidder under the scope of this RFP.</p>	
<p>2. Bidders are required to fill only those cells highlighted in Yellow in this sheet and other sheets</p>	
<p>3. Other than yellow color cells, remaining Cells are formula based, hence bidder need not enter anything in these cells</p>	
<p>4. The rates quoted by the Bidder shall be inclusive of all taxes, duties, levies, cess, royalties, octroi, entry tax, and any other statutory charges applicable, excluding Goods and Services Tax (GST). GST shall be paid separately by the Authority at applicable rates, subject to submission of valid tax invoices and compliance with applicable statutory provisions, including furnishing of proof of payment of GST.</p>	
<p>5. All costs required for complete execution of the Works in accordance with the Contract shall be deemed to be included in the rates quoted by the Contractor in the BOQ, including all incidental civil, mechanical, electrical, and allied works, and all ancillary equipment, components, fittings, accessories, systems, and activities required for Go-Live and operationalization of the Gantries, commissioning and full functionality of the Control Centre, and compliance with the functional requirements and Service Level Agreements (SLAs). No separate payment shall be made for any such items or works, whether specifically mentioned in the BOQ or not, and the Contractor shall not be entitled to any additional payment or claim on account of any omission, deficiency, or misunderstanding of the scope of work.</p>	

Financial Bid Format (Form-F2) – Bill of Quantities					
Sl. no	Item	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
A	Field Equipment Gantry				
1	RFID Antenna	No	89		-
2	RFID Reader	No	89		-
3	ANPR Camera (Including Housing and Mounting)	No	89		-
4	Audit Surveillance Camera including night vision and Mounting	No	35		-
5	IR Illuminator	No	89		-
6	Switch (Layer 3) – 24 Port (HA Mode)	No	35		-
7	LPU with all network equipment	No	35		-
8	Gantry	No	35		-
9	Data Storage Including peripheral, transaction, video storage, NVR ETC	No	35		-
10	06 KVA Online UPS	No	70		-
11	Redundant Internet Connectivity (100 Mbps)	No	70		-
12	Cabling, Networking and Integration with Control Room(Lumpsum)	No	35		-
13	VMECS Software, along with licenses and EMS for per Gantry	No	35		-
14	Firewall with all licenses	No	35		-
Total Capex(A)					-
B	Central Command Control Centre Equipment				
15	Central Server/Cloud Server (HA Mode)	No	2		-
16	Server Rack (42U) if physical server	No	1		-
17	Workstation with Display 27"	No	4		-
18	Video Wall	No	1		-
19	Network Colour Printer	No	1		-
20	Redundant Internet Connectivity (1Gbps)	No	2		-

Indian Highways Management Company Limited

21	Firewall with all licenses	No	1		-
22	Furniture, Interior and MEP work	No	1		-
23	Cabling, Networking and Integration with Gantries(Lumpsum)	LS	1		-
24	VMECS Software, along with licenses for Central Command Control Centre including the central web-portal	No	1		-
25	10 KVA Online UPS	No	1		-
Total Capex(B)					-
Total CAPEX Price (C)=(A+B)					-
Financial Bid Format (Form-F2)- Operation & Maintenance (5 years, i.e. 60 Months)					
Sl. no	Item	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
26	Quarterly O&M charges of VMECS inclusive of manpower (at site and Central Control Room), maintenance vehicle rental with fuel, electricity charges at gantry locations and Control Centre, etc	Quarter	20		-
Total O&M Price (D)					-
Grand Total (C + D) in Rs.					-

Note-

- i. Bidders are required to fill only those cells highlighted in **Yellow** in this sheet and other sheets.
- ii. The rates quoted by the Bidder shall be inclusive of all taxes, duties, levies, cess, royalties, octroi, entry tax, and any other statutory charges applicable, excluding Goods and Services Tax (GST). GST shall be paid separately by the Authority at applicable rates, subject to submission of valid tax invoices and compliance with applicable statutory provisions, including furnishing of proof of payment of GST.
- iii. All costs required for complete execution of the Works in accordance with the Contract shall be deemed to be included in the rates quoted by the Contractor in the BOQ, including all incidental civil, mechanical, electrical, and allied works, and all ancillary equipment, components, fittings, accessories, systems, and activities required for Go-Live and operationalization of the Gantries, commissioning and full functionality of the Control Centre, and compliance with the functional requirements and Service Level Agreements (SLAs). No separate payment shall be made for any such items or works, whether specifically mentioned in the BOQ or not, and the Contractor shall not be entitled to any additional payment or claim on account of any omission, deficiency, or misunderstanding of the scope of work.

PART-III - DRAFT FORM OF CONTRACT AGREEMENT

1.1.DRAFT CONTRACT AGREEMENT

No.

This Contract Agreement (hereinafter called the “Contract”) is made on this _____ day of the month of _____, 2026.

BETWEEN

Indian Highways Management Company Limited (IHMCL), incorporated under Companies Act 1956, and having its head office at Asia Bhawan, Sector 09, Dwarka, New Delhi-110077 (hereinafter referred to as the “IHMCL”, which expression shall, unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the first part.

AND

M/s _____, a company incorporated under the provisions of the Companies Act, 1956 and having its registered office at _____ (for and on behalf of Consortium comprising.....and (collectively the “Consortium”) with.....as its lead member (the “Lead Member”)) (hereinafter referred to as the “Contractor” which expression shall unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the OTHER PART.

WHEREAS

(a) the Contractor, in the ordinary course of its business, is engaged in providing similar services to their clients, and have represented to IHMCL through their bids, against RFP for the “System Integrator for Design, Supply, Installation, Testing, Commissioning and Operation & Maintenance of Vehicle Monitoring, Enforcement and Collection System for National Capital Region” that they have the required professional skills, personnel and technical resources to provide the required Services;

(b) on the basis of the said Tender, IHMCL has adjudged the Contractor as a Successful Bidder and issued Letter of Award (LoA) No. dated _____.2026 for the same;

(c) the Contractor has agreed through their letter of acceptance No dated to provide the said Services on the terms and conditions set forth in this Contract Agreement and has also submitted performance bank guarantee equivalent to

(Rs.

.....) such that it remains valid until one year beyond completion of the contract.

NOW THEREFORE, in consideration of the foregoing and the respective covenants and agreements set forth in this Contract Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties hereby agree as follows:

1. The mutual rights and obligations of the Contractor and IHMCL shall be as set forth in this Contract Agreement, in particular:
 - (a) The Contractor shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) IHMCL shall make payments to the Contractor in accordance with the provisions of the Contract.
2. The following schedules/ appendices shall be deemed to form and be read and construed as part of this Contract Agreement viz.

	General Conditions of Contract
Schedule A:	The Site
Schedule B:	The Proposed VMECS Facilities
Schedule C:	Standards & Technical Specifications
Appendices:	
Appendix A	Copy of Financial Bid of the Contractor
Appendix B	Letter of Award issued by IHMCL.
Appendix C	Letter of Acceptance submitted by the Contractor
Appendix D	Copy of the Performance Security submitted by the Contractor including copies of confirmation provided by the respective bank.
Appendix E	Copy of the Technical Bid and/or any subsequent correspondence of the Contractor/ IHMCL
Appendix F	Copy of RFP Document and subsequent amendment / addendum including Minutes of Pre-bid Meeting, if any

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

Indian Highways Management Company Limited

FOR AND ON BEHALF OF

(Indian Highways Management
Company Limited) (Authorized
Representative)

Name : _____

Designation _____

Indian Highways Management
Company Limited, Asia Bhawan,
Sector – 9, Dwarka
New Delhi – 110077

FOR AND ON BEHALF OF

(M/s _____)

(Authorized Representative)

Name : _____

Designation : _____

M/s _____

Address : _____

In the presence of following witnesses:

Name : _____

Designation _____

Indian Highways Management Company
Limited, Asia Bhawan, Sector – 9, Dwarka
New Delhi – 110077

Indian Highways Management Company
Limited, Asia Bhawan, Sector – 9, Dwarka

Name : _____

Designation : _____

M/s _____

Address : _____

Name : _____

Designation _____

Indian Highways Management Company
Limited

Asia Bhawan, Sector-09, Dwarka
New Delhi – 110077

Name : _____

Designation : _____

M/s _____

Address : _____

1.2. GENERAL CONDITIONS OF CONTRACT

1.2.1. Definition

The words and expressions beginning with capital letters and defined in this Contract Agreement shall, unless the context otherwise requires, have the meaning ascribed thereto herein and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules annexed hereto. Words used in capitals and not defined herein but defined in the RFP shall have the meaning as ascribed thereto in the RFP.

1.2.2. Interpretation

a) In this Contract Agreement, unless the context otherwise requires,

- a) references to any legislation or any provision thereof shall include amendment or re- enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or can apply to any transaction entered hereunder.
- b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted.
- c) references to a “**person**” and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether having separate legal personality) of two or more of the above and shall include successors and assigns.
- d) the table of contents, headings or sub-headings in this Contract Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Contract Agreement.
- e) the words “**include**” and “**including**” are to be construed, without limitation and shall be deemed to be followed by “**without limitation**” or “**but not limited to**” whether they are followed by such phrases.
- f) any reference to any period shall mean a reference to that according to Indian Standard Time.
- g) references to a “day” shall be construed as a reference to all days of the year.
- h) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar.
- i) references to any date, period or time shall mean and include such date, period or time as may be extended pursuant to this Contract Agreement.

- j) any reference to any period commencing “**from**” a specified day or date and “**till**” or “**until**” a specified day or date shall include both such days and dates; provided that if the last day of any period computed under this Contract Agreement is not a business day, then the period shall run until the end of the next business day.
- k) the words importing singular shall include plural and vice versa.
- l) “**lakhs**” means a hundred thousand (100,000) and “**crore**” means ten million (10,000,000).
- m) references to the “**winding-up**”, “**dissolution**”, “**insolvency**”, or “**reorganization**” of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors.
- n) save and except as otherwise provided in this Contract Agreement, any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub-clause shall not operate so as to increase liabilities or obligations of IHMCL hereunder or pursuant hereto in any manner whatsoever;
- o) any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Contract Agreement from or by any Party shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party, as the case may be, in this behalf and not otherwise.
- p) the Schedules and Recitals to this Contract Agreement form an integral part of this Contract Agreement and will be in full force and effect as though they were expressly set out in the body of this Contract Agreement.
- q) References to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Contract Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Contract Agreement and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Contract Agreement or of the Schedule in which such reference appears; and
- r) the damages payable as set forth in this Contract Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “**Damages**”).
- s) “Arbitration Act” means the Arbitration and Conciliation Act, 1996 and shall include amendments, modifications to or any re-enactment thereof as in force from time to time.

- t) **"VMECS"** refers to [Company Phone]through FASTag-ANPR.
 - u) **"SYSTEM"** means "[Company Phone]."
 - v) **"Effective Date"** shall mean date of this Contract Agreement.
 - w) **"Uptime"** refers to the duration during which an Vehicle Monitoring, Enforcement and Collection System (VMECS) equipment or system is actively functioning, operating, and ready to execute its intended tasks effectively, meeting the operational characteristics as defined in the RFP document, without encountering significant interruptions or failures.
 - x) **"Downtime"** refers to the period during which Vehicle Monitoring, Enforcement and Collection System (VMECS) equipment or system is either non-functional or not actively operating to execute its intended tasks effectively, thus failing to meet the operational characteristics outlined in the RFP document due to significant interruptions or failures.
 - y) **"Bidder", "Successful Bidder", "Contractor" and "Service Provider"** mean 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.
 - z) **"Quoted Value"** mentioned in the RFP shall mean total cost Fee quoted by the bidder as per financial bid form.
- b) Any word or expression used in this Contract Agreement shall, unless otherwise defined or construed in this Contract Agreement, bear its ordinary English meaning, and, for these purposes, the General Clauses Act 1897 shall not apply.

1.2.3. Definitions

APTS:	Automatic Power Transfer Switch
AI/ML	Artificial Intelligence/Machine Learning
ATMS	Advanced Traffic Management System
BIS	Bureau of Indian Standards
BS	British Standard
CIF	Common Interface Format
CCTV	Closed Circuit Television
DLP	Defects Liability Period
DM	Disaster Management
DDMA	District Disaster Management Authority
ECB	Emergency Call Box
ERT	Emergency Road side Telephone
EN	European Standard

FAT	Factory Acceptance Tests
FPS	Frames Per Second
GUI	Graphical User Interface
HDPE	High-density polyethylene
HVAC	Heating Ventilation and Air conditioning
IRC	Indian Roads Congress
IHMCL	Indian Highways Management Company Limited
ITM	Integrated Traffic Management
ITS	Intelligent Transport Systems
ITU-T	Telecommunication Standardization Sector of the International Telecommunication Union
JPEG	Joint Photographic Experts Group
LAN	Local Area Network
MET	Meteorological Data Systems
MoRTH	Ministry of Road Transport and Highways
MTBF	Mean Time between Failures
MTTR	Mean Time to Repair
NAS	Network-Attached Storage
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
IHMCL	Indian Highways Management Company Limited
NMS	Network Management System
NHAI	National Highways Authority of India
NVR	Network Video Recorder
OF	Optic Fibre
OFC	Optic Fibre Cable
O&M	Operation and Maintenance
PIJF	Polythene Insulated Jelly-filled
PTZ	Pan, Tilt, Zoom
SAT	Site Acceptance Tests
SDMA	State Disaster Management Authority
SIT	System Integration Test
Solar PV	Solar Photo voltaic
SWB	Static Weighbridge

TEC	Telecommunication Engineering centre of the Government of India
UPS	Uninterruptible Power Supply
VMS	Variable Message Signs
WAN	Wide Area Network
WIM	Weigh-in-motion
WPC	Wireless Planning Council
Note: The document uses “Bidder”, “Contractor” ,“Service Provider” and “Successful Bidder” interchangeably. They refer to the Agency engaged by IHMCL for execution of VMECS works.	

1.2.4. Arithmetic conventions

All calculations should be rounded to two decimal places. If the third digit after the decimal point is 5 or higher, the same shall be rounded up. If the third digit is less than 5, the same shall be rounded down.

1.2.5. Priority of Agreements, Clauses and Schedules

- a) In case of inconsistency between the provisions of this Contract Agreement and the RFP, the terms of this Contract Agreement shall prevail to the extent of such inconsistency.
- b) In case of ambiguities or discrepancies within this Contract Agreement, the following shall apply:
 - i. between two or more Clauses of this Contract Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
 - ii. between any two Schedules/Articles, the Schedule / Article relevant to the issue shall prevail;
 - iii. between the written description on the drawings/design documents, if any, and the Specifications and Standards, the latter shall prevail; and
 - iv. between any value written in numerals and that in words, the latter shall prevail.

1.2.6. SCOPE OF PROJECT

Under this Agreement, the scope of the Project shall mean and include:

1. **Design, Development and Implementation of the Vehicle Monitoring, Enforcement and Collection System** : Undertake the design, development, and implementation of Vehicle Monitoring, Enforcement and Collection System at the listed in Schedule-A, with the provision of facilities as specified in Schedule-B, and

ensure compliance with the Specifications and Standards outlined in Schedule-C.

2. **Operations & Maintenance:** Carry out the operations and maintenance of the Vehicle Monitoring, Enforcement and Collection System in accordance with this Agreement, adhering to the requirements specified in Schedule-C.
3. **Web based Application Portal -** The Bidder shall develop, implement, and maintain a web-based application/portal enabling real-time monitoring of system health, availability status, traffic counts (FASTag and Non-FASTag), and automated alerts in respect of downtime or malfunction of Vehicle Monitoring, Enforcement and Collection System (VMECS) equipment. The portal shall provide comprehensive access to transaction-level data of all detected vehicles, details of charges collected, reconciliation reports, e-notices issued, data received from VAHAN against records transmitted, and such other operational and enforcement-related parameters as may be required. The architecture and design of the portal shall be scalable, modular, and future-ready to accommodate technological advancements, system enhancements, and evolving functional requirements. The minimum functional and technical requirements of the web-based application/portal are specified under Clause 2.10 of Schedule C of this Agreement.
4. **Data Security and Protection:** The Bidder shall ensure robust data security and protection measures in compliance with Government of India guidelines, including but not limited to the Information Technology (IT) Act 2000 and the Digital Personal Data Protection (DPDP) Act 2023, to safeguard user data, prevent unauthorized access, and maintain the integrity and confidentiality of all collected information.
5. **Performance and fulfilment of obligation:** Ensure the performance and fulfillment of the Bidder's obligations in accordance with the provisions of this Agreement, including all incidental or necessary activities required to meet the obligations under this Agreement

1.2.7. Relationship between the Parties

Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between IHMCL and the Contractor. The Contractor, subject to this Contract Agreement, has complete charge of Personnel performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder. Contractor shall alone be responsible for the remuneration and statutory compliance with respect to its employees, contractors or representatives. IHMCL has no liability w.r.t. the representatives/ employees of the Contractor. Contractor will keep IHMCL fully indemnified in this regard.

1.2.8. Governing Law and Jurisdiction

This Contract Agreement shall be construed and interpreted in accordance with and

governed by the laws of India, and the courts at Delhi shall have exclusive jurisdiction over matters arising out of or relating to this Contract Agreement.

1.2.9. Language

This Contract Agreement has been executed in English, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract Agreement.

1.2.10. Effectiveness of Contract

This Contract Agreement shall come into effect on the date the Contract is signed by both the Parties. The date, the Contract comes into effect is defined as the Effective Date.

1.2.11. Commencement of Services

The Contractor shall commence the Services from the date of Handing over the site.

1.2.12. Duration of Contract

The term of this Contract Agreement shall be 3 months for design, development & implementation of the Vehicle Monitoring, Enforcement and Collection System and 5 years for Operation and Maintenance (O&M) phase, starting from the Effective Date.

Any additional implementation work awarded within the original Contract Period of 5 year and 3 months period will be incorporated into the implementation and O&M phases in such a way that the total original Contract duration does not exceed the initial 5 years and 3 months, unless an extension is granted by IHMCL.

1.2.13. Assignment

This Contract Agreement shall not be assigned by the Bidder to any person / agency except with the prior consent in writing of IHMCL and IHMCL shall be entitled to decline without assigning any reason whatsoever. Notwithstanding anything to the contrary contained in this Contract Agreement, IHMCL may, after giving 30 days' notice to the Bidder, assign and/ or transfer any of its rights, benefits and/or obligations under this Contract Agreement to an assignee who is, in the reasonable opinion of IHMCL, capable of fulfilling all IHMCL's then outstanding obligations under this Contract Agreement.

1.2.14. Severability

If for any reason whatsoever any provision of this Contract Agreement 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 Agreement or otherwise.

1.2.15. Notices

Any notice, request or consent required or permitted to be given or made pursuant to this Contract Agreement shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified below. The mode of service of any notice shall be either courier or registered post or e-mail or fax or by hand.

The addresses for service of Notice shall be:

IHMCL: Chief Operating Officer

Address: Indian Highways Management Company
Limited, 2nd Floor, Sector-09, Dwarka, New Delhi - 110077

E-mail: tenders@ihmcl.com

Contractor:

Attention:

Address:

E-mail:

1.2.16. Time Schedule

a) Time as Essence of Contract

The bidder expressly agree that time shall be of the essence of this Contract. The Bidder shall complete the entire scope of work, including design, development, supply, installation, integration, testing, commissioning and operationalization of the Vehicle Monitoring Enforcement and Collection System, within the timelines stipulated in this Contract.

b) Adherence to Milestones

The Bidder shall strictly adhere to the milestones and completion schedule set forth below. Any delay in achieving the prescribed milestones shall constitute a material breach of the Contract.

c) Consequences of Delay

Without prejudice to any other rights or remedies available under the Contract or applicable law:

- i. In the event of delay beyond the stipulated timelines, the Authority shall have the right to impose damages as specified in the Contract; and
- ii. If such delay exceeds 50 (Fifty) days beyond the scheduled completion date (or any extended date approved in writing by the Authority), the Authority shall have the right to terminate the Contract, in whole or in part, for Contractor's default.

d) Risk and Cost Provision

In the event of termination or failure of the Contractor to complete the work within the stipulated timelines, the Authority shall be entitled to complete the remaining work, at the sole risk and cost of the Contractor. Any additional cost incurred by the Authority in completing such work shall be recoverable from the Contractor, including through encashment of Performance Security or any other dues payable to the Contractor.

e) No Relief for Delay

No extension of time shall be granted except in cases of Force Majeure or delays not attributable to the Contractor, as determined in accordance with the provisions of this Contract. The burden of proof for such delays shall lie with the Contractor.

f) Timelines

Sl. No.	Activity	Time period
Contract Signing		
1.	Date of signing of Contract Agreement	T0
Construction Period		
2.	"Go-Live*" of Vehicle Monitoring, Enforcement and Collection System, subject to successful completion of SAT	03 Months
Operation & Maintenance Period		
3.	Operation & Maintenance Period	Five (05) Years from the date of Go-Live

1.2.17. Site Acceptance Testing

- a) After successful completion of implementation of Vehicle Monitoring, Enforcement and Collection System (VMECS) facility, the successful bidder shall make a formal request to

IHMCL for Site Acceptance Testing (SAT) duly mentioning the start date of SAT, in consultation with IHMCL. The formal request shall include all the required documentation, test certificates, evidence for installation etc.

- b) The SAT shall be conducted for the parameters mentioned in Clause 1.2.19 below. The SAT shall be considered successful only if it meets all the requirements mentioned in table under Clause 1.2.19.
- c) Post receipt of Offer for Site Acceptance Test (SAT) by the Bidder, IHMCL or its designated representatives shall conduct the SAT at the respective site. The Bidder, along with its sub-contractors, shall extend full support and facilitate the demonstration of all required functional and performance parameters of the deployed Vehicle Monitoring, Enforcement and Collection System (VMECS) solution, as stipulated in the scope of work and technical specifications.
- d) If the Bidder fails to meet the required performance parameters during SAT trial run, a period of Seven (07) days (Cure Period) shall be granted for necessary refinements and adjustments to its solution. Following this refinement period, a second round of SAT shall be conducted. If the Bidder is unable to demonstrate compliance with the required parameters in the second round of testing, the SAT shall be considered as unsuccessful. For avoidance of doubt, this Cure Period shall mean the same as mentioned in Clause 1.2.36 (b).

1.2.18. Consequences of Unsuccessful SAT

- a) In the event that the Bidder/Contractor fails to achieve successful Site Acceptance Test (SAT) at all locations as stipulated under this Agreement, the Performance Security specified under Clause 6.10 shall stand forfeited, provided Extension of Time is granted for any location(s) in accordance with Clause No 1.2.20(b) of Contract Agreement.
- b) The Parties expressly agree and acknowledge that the forfeiture of performance security as per clause 1.2.18(a) does not constitute a penalty, but represents a fair, genuine and reasonable pre-estimate of the costs, losses, damages, expenses and administrative efforts incurred or likely to be incurred by IHMCL as a consequence of the Bidder's failure to achieve successful SAT.
- c) The Bidder shall be responsible for dismantling and removing all equipment, hardware, and associated infrastructure installed at the site, at its own cost and within the timeline specified by IHMCL.
- d) The Bidder shall also be required to restore the site to its original condition, ensuring that no damage, debris, or residual materials remain. All restoration activities must be carried out to the satisfaction of NHA/IHMCL.

1.2.19. Parameters to be checked during Site Acceptance Testing (SAT)

The following high-level parameters shall be evaluated during the Site Acceptance Test (SAT). IHMCL reserves the right to provide further specifications or details regarding any of the requirements outlined in this RFP, as deemed necessary.

OEM certificates, Quality Report (Prior to Acceptance Testing)

The bidder shall submit reports / certificates from OEM / System Integrator (SI) certifying quality, performance accuracy including:

1. Performance (of ANPR Camera, RFID Reader and VMECS Application) under various scenarios e.g., fog, rain, glare, low illumination, high-speed, lane-switching, skewed - multilingual – non-standard plates, and all vehicle classes.
2. Verification of vehicle crossings count as obtained from various field devices – e.g., RFID Reader, ANPR Camera etc
3. System resiliency and recovery in event of network / server / system failure.
4. Submit performance reports demonstrating receiver sensitivity (in dBm), read-rate reliability (tags read per second), adjacent-lane interference rejection, and carrier/noise interference suppression under standardized test conditions.

During Site Acceptance Testing (SAT), bidders shall demonstrate deployment effectiveness, including antenna and camera alignment, beam directionality, IR/EIRP optimization, and overall read reliability under live traffic conditions.

SI #	Parameters	Requirements Description
1)	Vehicle count accuracy	<p>Assessment of the proposed Vehicle Monitoring, Enforcement and Collection System capability to achieve the vehicle count accuracy levels defined in the RFP under clause Schedule B, Clause 7, SL no. 4.</p> <p>The vehicle count accuracy shall be validated through the TMS report of the plaza. IHMCL may also validate the same with an independent system.</p>
2)	ANPR Camera Accuracy	<p>The ANPR camera system should read all types of vehicle registration number (VRN) plates with minimum accuracy of 97% under both day and night conditions, without any manual validation/audit.</p> <p>The bidder shall be solely responsible of deployment of any additional arrangement e.g. lighting etc. to achieve the desired accuracy.</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The 97% ANPR accuracy refers to the ANPR system's overall performance, considering recognition from either the front or rear license plate. Number plates that are "humanly not readable" shall be excluded from the total count used for accuracy calculation. 2. A license plate shall be considered "humanly not readable" if its alphanumeric characters cannot be accurately

SI #	Parameters	Requirements Description
		<p>identified by a person with normal vision under standard daylight or lighting conditions, due to factors such as physical damage, obstruction (e.g., mud, dust, stickers), tampering, or any deliberate alteration that renders the plate illegible to the naked eye.</p> <p>3. ANPR Accuracy shall be evaluated and reported across diverse real-world test scenarios - including fog, rain, glare, low illumination, multilingual and non-standard plates, high-speed and lane-switching vehicles, and plates at varied tilt or skew angles across all vehicle classes. Front-rear plate correlations shall be validated for each scenario to ensure end-to-end consistency and eliminate false associations. The accuracy percentages shall be independently reported by the vendor and approved by IHMCL for every defined test condition.</p> <p>4. “Humanly Not Readable” shall not exempt instances such as low-light readability, skewed or angled plates, fog, rain, or glare conditions that can be effectively addressed through IR illumination, multi-angle or dual-camera capture, HDR imaging, AI-based enhancement techniques or any other technology. Any such instances shall be explicitly reported by the vendor.</p> <p>5. Total vehicle crossings shall be cross-verified across all detection sources — ANPR, RFID, and Lane Counters. Any vehicle missed by ANPR due to camera frame delay, frame loss, latency, or system overload shall be explicitly reported, treated as an accuracy shortfall and reflected in the reported ANPR performance metrics.</p>
3)	API integration with NPCI for transaction processing	<p>The proposed VMECS should be able to integrate into NPCI system as per process flow diagram provided in the RFP. The integration shall be as per the draft Technical Specification Document circulated by NPCI.</p> <p>Verification of seamless integration of the VMECS with NPCI's infrastructure as per the process flow and draft Technical Specification Document provided in the RFP, including successful API communications, authentication, and transaction processing protocols.</p> <p>It should be possible to create a transaction from a valid functional FASTag and VRN plate from a vehicle crossing the</p>

SI #	Parameters	Requirements Description
		<p>VMECS gantry at a high speed (greater than 100 km/hr). The transaction should be verifiable from NPCI system.</p> <p>Parameters shall be checked as below:</p> <ul style="list-style-type: none"> • Verification of successful FASTag transactions captured by the VMECS, including correct matching of vehicle passages with FASTag IDs and VRN. • Accuracy and completeness in capturing transaction data, including date, time, plaza code, vehicle class, transaction amount, and unique transaction identifiers.
4)	API integration with VAHAN through NIC	<p>API integration with VAHAN and SAARTHI App, retrieving vehicle-related information, including but not limited to the following:</p> <ul style="list-style-type: none"> • Vehicle Registration Number • Vehicle Class / Category • Commercial / Non-Commercial • Fuel Type • Number of Axle • Gross Vehicle Weight • Bharat Stage (BS) Emission Standard • Vehicle Make, Model and Color • Fitness Validity • Insurance Validity • Pollution Validity • Registration Validity
5)	Payment reconciliation for successful FASTag transactions	<p>The proposed VMECS solution should be able to ensure accurate reconciliation for the settled transaction data as shared by the Acquirer Bank with the transaction generated at VMECS system of financial transactions.</p>
6)	Tracking and status monitoring of unsettled transaction	<p>The proposed VMECS solution shall enable tracking and status monitoring of unsettled transactions for eligible vehicles based on data provided by the Acquirer Bank. Any unsettled transaction that is subsequently settled by the user through the</p>

SI #	Parameters	Requirements Description
		payment portal shall be updated in the VMECS system to reflect the latest status.
7)	Reporting/MIS	Confirmation of comprehensive audit trails, robust traceability of transaction reconciliation processes, and the capability to generate detailed reconciliation reports highlighting matched, unmatched, or erroneous transactions, e-notices cases.

1.2.20. Damages

a) Damages for Delay in completion of work

Failure Refer to Section Service Level Agreements (SLA), in the RFP Schedule B Section 7 (Sr.No.1).

b) Extension of Time (EOT)

- i. The Bidder may request an extension of time beyond the binding completion schedule if it encounters unforeseen circumstances or events beyond its control that materially and significantly impact its ability to meet the deadline.
- ii. The Bidder shall submit a written request for the extension, detailing the reasons for the delay and providing supporting documentation, to IHMCL within a reasonable time frame after becoming aware of the delay.
- iii. IHMCL shall review the extension request and may grant an extension if it deems the reasons provided by the Bidder to be valid and justifiable.
- iv. If the Bidder fails to request an extension of time within thirty (30) days from the date of occurrence of the delay-causing event or if the delay is not attributable to reasons beyond its control, the request of the Bidder will not be considered by IHMCL.
- v. The Bidder shall not be entitled to any extension of time or relief from damages for delays caused by its own negligence, inadequate planning, insufficient resources, or failure to adhere to project timelines.
- vi. The decision of IHMCL regarding extension requests and imposition of damages shall be final and binding on the Bidder, subject to dispute resolution mechanisms as outlined in the Contract Agreement.

c) Damages for Non-Compliance to Safety Standards at site

Failure by the Bidder's personnel in maintaining the safety standards at the site as per Schedule-C at any time shall attract damages on every instance noticed by the IHMCL (or its representatives).

- a. Staff working without safety gears – damages of INR 10,000/- per instance. In the case of repeated instances by the same staff member of the Bidder, the damages shall be doubled per instance. The Bidder shall have to Replace the repeated offenders / personal (safety lapses more than thrice) with immediate effect.
- b. Improper safety measures at site, safety hazard to the commuters due to poor workmanship, etc. working during low visibility hours or at night time without proper safety measures, warning signages and lighting/ improper traffic diversion / non-standard warning signages etc. / unauthorized lane closure / traffic rule violation – minimum damages of INR 1,00,000/- per instance shall be imposed on recommendation of the IHMCL (or its representatives). In cases of repeated instance, the penalty shall be doubled per instance. The Bidder shall have to Replace the repeated offenders / personal (safety lapses more than twice) with immediate effect. IHMCL shall also take legal action against the errant staff / sub-contractor (SI) of the Bidder, as such safety lapses may lead to major safety concerns / hazards for the road users as well as the workers

d) Damages for non-adherence of Service Level Agreement (SLA)

- a) Non-Adherence of SLA during the O&M period would result in damage mentioned in Schedule-B of the Agreement. The damage will be recovered as defined under clause 1.2.22 of the General Conditions of the Contract.
- b) During the Contract Agreement, every first week of the Quarter, the Bidder is obligated to make an inventory of the items presented and provide a copy to IHMCL. Furthermore, the Bidder shall provide an undertaking attesting to the presence and functionality of all required items as per the Technical Bid, accompanied by the necessary documentary evidence to support this claim.
- c) To verify the undertaking or even otherwise, every quarter, IHMCL or its representative can do an inventory or inspection of the items that are to be present and working as per the technical bid. If technical requirements are not found to be met, IHMCL can pause the calculation payments until all technical requirements are met again. In such cases, IHMCL will eliminate the paused period and make prorated payments for that quarter.

1.2.21. Payments

- a) The payment shall be made based on the rates quoted by the Bidder in Financial Bid Form and accepted by the Authority, in consideration of the obligations outlined in this Agreement and subject to the Payment Terms outlined in the Agreement.
- b) Under no circumstances shall the rates quoted by the Bidder be revised upwards, even if there is an increase in any tax, statutory, or financial liability of the Bidder that was not in existence or prevalent at the time of bid submission.
- c) The rates in the financial bid, unless otherwise specified in the Contract

Agreement, shall cover all the Bidder's responsibilities for the works outlined in this Agreement, including all essential, desirable, and obligatory items for the Implementation, operation, and maintenance of the [Company Phone]. This shall be done without compromising on the quality standards specified in the Contract Agreement, Good Industry Practice, and any official memos, circulars, or notices issued or to be issued by IHMCL/NHAI/MoRTH, which are relevant to the scope of this Contract Agreement, as well as the remedying of any defects in the [Company Phone].

- d) The rates quoted by the Contractor shall be inclusive of all taxes, duties, levies, cess, royalties, octroi, entry tax, and any other statutory charges applicable, excluding Goods and Services Tax (GST). GST shall be paid separately by the Authority at applicable rates, subject to submission of valid tax invoices and compliance with applicable statutory provisions, including furnishing of proof of payment of GST.

1.2.22. Payment Terms

- a) The Contract Price shall comprise (i) Capital Expenditure (Capex) for construction of VMECS Gantries and Control Centre, and (ii) Operation and Maintenance (O&M) Cost for a period of sixty (60) months.
- b) During the Construction Period, payment shall be limited to (i) 50% of the BOQ cost of the Control Centre, and (ii) 50% of the BOQ cost of each Gantry, subject to commissioning of Control Center and such Gantry being installed, commissioned, and made live with integration to the Control Centre. Payment during the Construction Period shall be released only upon certification that the respective Gantry is fully operational and meeting the functional requirements specified in the Contract. No payment shall be made for incomplete or non-operational works.
- c) The balance payments shall be released quarterly during the O&M Period and shall include (i) remaining 50% of the BOQ cost of the Control Centre, (ii) remaining 50% of the BOQ cost of Gantries, and (iii) O&M Cost quoted by the bidder.
- d) All payments during the O&M Period shall be subject to compliance with the Service Level Agreements (SLAs) assessment on monthly basis. In case of non-achievement of SLA parameters, proportionate deductions shall be made as per the provisions of the Contract.
- e) The Authority shall have the right to deduct or recover any dues, penalties, damages, or other recoveries from any payments due to the Contractor under this Contract.

1.2.23. Deleted

1.2.24. Change of Scope

- a) Bidder shall be entitled for Change of Scope in the following cases only after written instructions from IHMCL or its representative:

- i. Installation of MLFF Vehicle Monitoring, Enforcement and Collection System (VMECS) Solution at any other location/ toll plaza in addition to those mentioned in Schedule-A.
- b) The estimate of any Change of Scope Work due to the condition mentioned above shall be derived as per BOQ Items based on Good Engineering Practice.
- c) Upon receipt of written instruction from IHMCL or its representative, the Bidder shall submit the Change of Scope proposal within 15 days duly including the estimate, design drawing of the work along with functional and technical specifications and time required for completion of the additional work, to IHMCL or its representative for issue of the Change of Scope Order.

1.2.25. Project Administration

The IHMCL designates *CEO, IHMCL* as its Administrator, who will be responsible for the coordination of activities under this Contract Agreement, for acceptance and finalization of the services and of other deliverables by IHMCL and for receiving and approving invoices for the payment. IHMCL may appoint Supervision Consultant to act on its behalf.

1.2.26. Cyber Security Audit, Compliance and Controls

The Bidder shall comply with the following cyber security requirements throughout the Contract period:

- i. IHMCL/NHAI at its sole discretion may conduct regular /forensic audit of the services under this Contract Agreement. The Bidder shall cooperate and provide all required documentation, access to IT system during such audit, failing which, it shall be considered as breach of Contract Agreement on part of Bidder under Clause No. 1.2.35(o).
- ii. NHAI/IHMCL reserves the right to install or appoint any third party to install additional infrastructure, such as a separate gantry, cameras, or any other equipment, to facilitate third-party audits. This infrastructure may be deployed to independently verify data, monitor operations, or ensure compliance with service level agreements (SLAs). The successful bidder shall provide all requisite support to the third-party facility such as Power, Integration with successful bidder solution etc. without any additional cost to NHAI/IHMCL.
- iii. The Bidder shall undergo periodic third-party security audits at least once annually and submit detailed audit reports along with compliance status to IHMCL/NHAI.
- iv. The Bidder shall conduct quarterly Vulnerability Assessment and Penetration Testing (VAPT) and annual Red Team exercises to evaluate system resilience against advanced threats. Reports of the same shall be submitted to IHMCL/NHAI along with mitigation actions taken.
- v. The Bidder shall establish and maintain a Digital Forensic Readiness Framework,

including procedures for evidence preservation, logging, monitoring, and chain-of-custody, to support forensic investigations, if required.

- vi. The Bidder shall adopt DevSecOps practices, ensuring integration of security controls and testing across all stages of the software development lifecycle, including design, development, testing, deployment, and maintenance.
- vii. The Bidder shall conduct regular cybersecurity awareness and training programs, including phishing simulation exercises, for all personnel/users associated with the system at defined intervals.
- viii. The Bidder shall implement advanced security mechanisms, including but not limited to deception technologies, privileged session monitoring, and anomaly detection systems, to proactively identify and mitigate cyber threats.
- ix. **Minimum Security Controls:** The Bidder shall deploy multi-layered security including firewalls, and periodic access audits; ensure encryption of data at rest and in transit using latest; carry out regular vulnerability assessments, patching and compliance with CERT-In guidelines; establish an incident response mechanism with reporting and implement system hardening across all infrastructure components.
- x. **STQC and CERT-In Certification:** The Bidder shall be required to carry out STQC certification of its VMECS software within 6 months from the date of completion of SAT. Further the Bidder shall be required to conduct CERT-In certification of its VMECS software every year post Go-Live of the VMECS.

1.2.27. Fraud and Corruption

a) Definitions

It is IHMCL's policy that IHMCL as well as Contractors observe the highest standard of ethics during the selection and execution of such contracts. In pursuance of this policy, IHMCL defines, for the purpose of this provision, the terms set forth below as follows:

- i. "corrupt practice" means the offering, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in contract execution;
- ii. "fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or execution of a contract with IHMCL; and includes collusive practice among bidders, prior to or after bid submission, designed to establish bid prices at artificially high or non-competitive levels and to deprive IHMCL of the benefits of free and open competition;
- iii. "collusive practices" means a scheme or arrangement between two or more bidders, with or without the knowledge of IHMCL, designed to establish prices at artificial, non- competitive levels;

- iv. “coercive practices” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract;
- v. “unfair trade practices” means supply of services different from what is ordered on, or change in the Scope of Work which was not agreed to; and
- vi. “restrictive practices” means forming a cartel or arriving at any understanding or arrangement among bidder(s) with the objective of restricting or manipulating a full and fair competition in the bidding process.

b) Measures to be taken by IHMCL

- i. IHMCL may terminate the contract if it determines at any time that representatives of the Contractor were engaged in corrupt, fraudulent, collusive or coercive practices during the selection process or the execution of that contract, without the Contractor having taken timely and appropriate action satisfactory to IHMCL to remedy the situation;
- ii. IHMCL may also sanction against the Contractor, including blacklisting / declaring the Contractor ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the Contractor has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract with IHMCL.

1.2.28. Confidentiality of the Assignment/Findings

- a) The Bidder shall not, during the term of this Contract Agreement and within three years after its expiration or termination, disclose or permit to be disclosed any proprietary or confidential information relating to the services, this Contract Agreement or the IHMCL’s business or operations without the prior written consent of IHMCL to any third party other than its agents, consultants, or subcontractors who need to know in connection with the purpose for which it was disclosed and who are bound to preserve the confidentiality thereof, to any person outside its organization, any Proprietary Information.
- b) The Bidder and its personnel shall use such Proprietary Information only for the purpose for which it was disclosed and shall not use or exploit such Proprietary Information for its own benefit or the benefit of another without the prior written consent of the IHMCL. Without limitation of the foregoing, Bidder shall not cause or permit reverse engineering of any Proprietary Information or recompilation or

disassembly of any information or software programmes that are part of the Proprietary Information received by it under this Contract Agreement. For the purposes of this Contract Agreement - Proprietary Information shall include, but not be limited to, strategies, official secrets, actual and anticipated research, developments or plans, services, software, applications, inventions, processes, discoveries, formulas, architectures, concepts, ideas, designs, drawings, personnel, financial information, demonstrations, operations, records, assets, technology, data, and information derived, whether existing or derived or analysed out of the information made available to the Bidder in the form of raw data or reports, in any form whatsoever.

- c) The Bidder alone shall be responsible for ensuring the maintenance of confidentiality as contemplated above and shall be responsible for employing sufficient measures to prevent any unauthorised access to the Proprietary Information.

1.2.29. Insurance cover to be maintained

- (a) The Bidder shall ensure to maintain proper insurance coverage of all the equipment, materials, establishment against fire, theft, vandalism or any other perceived risk(s) / natural disaster etc during the entire duration of the contract period.
- (b) In addition to material and equipment, the Contractor shall also ensure to have adequate insurance for all its personal working/ deployed under this Contract Agreement. The insurance shall also fully cover the personnel / workers / labourers of sub-contractors. In case any worker / labourer claim is not covered by the insurance company, the Contractor shall be responsible for covering the entire expenses for medical, transportation, wages, compensation etc. of the personnel in case of any incident / accident/ mishap / death, etc. Suitable compensation shall be paid by the Contractor to the personnel deployed at the project in case of any incident / accident/ mishap / death, etc. if any happened on the site/ project or in transit, irrespective of the reason. Hence the insurance policy shall be comprehensive and shall cover all types of risks and compensation.
- (c) The Contractor shall indemnify IHMCL against any damage/ loss of property or personnel of Contractor working on any site under this Contract Agreement.
- (d) The Contractor shall submit the copy of insurance policies to IHMCL within 15 days

of issuance of LOA renewal policy within 15 days of the expiry of the policy till the end of the Contract period. Penalty of INR 10,000 shall be levied on the Contractor for delay of each working day from the due day of submission / expiry of the insurance policy documents.

1.2.30. Labour Laws

- a) The Bidder shall obtain all relevant labour registrations and comply with all relevant labour laws applying to its employees, and shall duly pay them and afford to them all their legal rights.
- b) The Bidder shall make all deductions of tax at source and all contributions to the Payment of Gratuity, Provident Fund (including Employees' contribution) and Employees' State Insurance Scheme as may be required by Applicable Laws and deposit the aforesaid contributed amount with the appropriate authority/(s).
- c) The Bidder contractor shall require all personnel engaged in the Works to obey all Applicable Laws and regulations. The Contractor shall permit Authority to witness labour payments for the Contractors direct labour, or the Subcontractors labour. The Contractor shall ensure that all its Sub-contractors strictly comply with all labour laws.
- d) Documentary evidence confirming the above compliance, as may be required from time to time, shall be provided to the IHMCL's Representative.
- e) IHMCL shall not be liable for any delay/default of the Contractor in compliance of the labour laws

1.2.31. No partnership

This Contract Agreement 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 an agent or representative of, or to otherwise bind, the other Party.

1.2.32. Intellectual Property Rights

All Intellectual Property of the respective Parties shall continue to vest with the

respective Party and one Party may make use of the Intellectual Property only with the express consent of the other Party. However, it is agreed and acknowledged by the Contractor that intellectual property rights in the Proprietary Information as well as any other data or information/ reports generated during the performance of services contemplated herein by the Contractor shall always vest with IHMCL and Contractor will not have any right in such IPR whatsoever.

1.2.33. 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.

1.2.34. Dispute Resolution

Any Dispute resolution procedure shall be as mentioned in Clause 6.11 of the RFP.

1.2.35. Events of default by the Contractor

The failure on the part of the Contractor to perform any of its obligations or comply with any of the terms of this Contract shall constitute an Event of Default on the part of the Contractor. The events of default as mentioned above may include inter-alia of the following:

- a. the Bidder fails to provide, extend, or replenish the Performance Security in accordance with this Agreement.
- b. the Bidder abandons or manifests intention to abandon the implementation or O&M of the Project without the prior written consent of the Authority.

- c. the Project Completion Date does not occur within the period specified in RFP Clause 1.2.12 for the Scheduled Completion Date, or any extension thereof accorded under Clause 1.2.12.
- d. the Bidder fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority.
- e. the Bidder fails to complete successful SAT as per Clause 1.2.17.
- f. the Bidder creates any Encumbrance in breach of this Agreement.
- g. an execution levied on any of the assets of the Bidder, or if a trustee or receiver is appointed for the Bidder or for the whole or material part of its assets that has a material bearing on the performance of the Bidder under the Contract Agreement.
- h. the Bidder is adjudged bankrupt or insolvent, has been, or is in the process of being liquidated, dissolved, wound-up.
- i. the Bidder has been or is in the process of being amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect or would be in breach of the terms of the Contract Agreement.
- j. any representation or warranty of the Bidder herein contained which is, as of the date hereof, found to be false or that the Bidder is at any time hereafter found to be in breach or non-compliance thereof.
- k. the Bidder submits to the Authority any statement, notice or other document, in written or electronic form, which contains false contentions/ information and can potentially adversely impact the Authority's rights, obligations or interests if accepted on its face value.
- l. the Bidder has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement.
- m. the Bidder commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the IHMCL.
- n. In case bidder fails to complete Hand Over Take Over (HOTO) activities during the contract period, as per Clause 1.2.39.
- o. The bidder's refusal to allow or failure to support the conduct of a forensic audit or IT system audit of their Vehicle Monitoring, Enforcement and Collection System.
- p. The bidder fails to meet SLA as mentioned in the Contract Agreement.
- q. Gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission, or other thing of value, as an inducement or reward:
 - i. for doing or forbearing to do any action in relation to the Contract, or
 - ii. for showing or forbearing to show favor or disfavor to any person in relation to the Contract, or

- iii. if any of the Bidder's personnel, agents, or sub-contractors (SI) give or offer to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (o). However, lawful inducements and rewards to Bidder's Personnel shall not entitle termination.

1.2.36. Consequences of Default

Where an Event of Default subsists or remains uncured then IHMCL shall be entitled to:

- a. Impose any such obligations and conditions and issue any clarifications as may be necessary to inter alia ensure smooth continuation of project and the Services which the Bidder shall be obliged to comply with. The Bidder shall in addition take all available steps to minimize is resulting from such event of default.
- b. Notwithstanding anything stated in this Contract Agreement, in the event of any defaults on part of the Bidder, IHMCL shall issue a notice to the Bidder (hereinafter referred to as Cure Period Notice) setting out specific defaults / deviances / omissions / non-compliances / non-performances and providing a notice of Seven (07) days ("Cure Period") to enable such defaulting party to remedy the default committed. If the Bidder fails to cure the default within the Cure Period, as stated in the Cure Period Notice, the Bidder shall be deemed to be in default of this Contract Agreement, unless the default has occurred solely as due to Force Majeure or for reasons not attributable to the Bidder. The Cure Period under this Clause shall be calculated from the date of receipt of the notice by the Bidder or when the default comes into the knowledge of the Bidder, whichever is earlier. If the Bidder fails to remedy the default after lapse of Cure Period notice, the contract is liable to be terminated by IHMCL.
- c. In the event that the Authority issues a notice to the Bidder pursuant to a breach of the Contract under Clause No. 1.2.35 of the Contract Agreement, the Bidder shall be obligated to deposit the entire charges collected into the designated account of IHMCL within T+1 working day. For the avoidance of doubt, from the date of issue of notice for the breach, the Bank's entitlement to Fixed Per Transaction Cost and the 7-day float shall remain suspended until the breach is fully remedied to the satisfaction of the Authority. Furthermore, the Authority reserves the right to implement alternative arrangements for the collection of applicable charges from eligible vehicles as notified by government.

1.2.37. Termination

- d. Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Bidder Default, the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Bidder; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Bidder of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Bidder to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.
- e. 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.

- f. Nothing herein shall restrict the right of the IHMCL to invoke the Bank Guarantee and other Guarantees furnished hereunder and pursue such other rights and/or remedies that may be available to the IHMCL under this Agreement and/or the Applicable Law.

1.2.38. Consequences of Termination

- (a) Upon Termination on account of Clause 1.2.37 (a):
- i. the Authority shall encash and appropriate the Performance Security, Additional Performance Security if any.
 - ii. the Authority may debar/blacklist the successful bidder from participating in any other project/assignment/work of IHMCL for a period as determined by IHMCL at its sole discretion.
- (b) Upon Termination on account of Clause 1.2.37 (b), the Authority shall make Termination Payment as under:
- i. The authority shall release the balance capex payment of facilities where Go live is completed. However, O&M payment shall be made as per actual till date of termination. No compensation shall be given for unused quarterly O&M services.
 - ii. The Bidder expressly agrees that Termination Payment shall constitute a full and final settlement of all claims of the Bidder on account of Termination of this Agreement and any other payment payable with respect to the Contract Agreement. The Bidder undertakes that it shall not have any further right or claim under any law, treaty, convention, contract, or otherwise, arising out of or in connection with the Contract Agreement.
- (c) Upon Termination, the Bidder shall handover all transfer all equipment, relevant documents / information/ software application developed under the contract / application / back up / data/ permissions to IHMCL or any other entity as directed by it for the entire VMECS project.

1.2.39. Handing Over and Taking over

After the expiry of the Maintenance Period set forth in the Contract Agreement and any extension thereof, the Contractor shall handover the entire VMECS facility including all sub-systems, equipment, software, source code, data, backup data and any other material / document set forth in this Agreement, to IHMCL or its representative in running condition. All the Gantries should be duly painted before handing over.

1.2.40. Survival of rights

Notwithstanding anything to the contrary contained in this Contract Agreement, any Termination pursuant to the provisions of this Contract Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, security deposits, and other rights and remedies which it may have in law or contract.

1.2.41. Indemnification

- (a) The Bidder shall indemnify, defend, save and hold harmless, IHMCL and NHAI and M/o Road Transport and Highways (M/o RT&H) and its Officers, Agents, Engineer, 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, such as fees and expenses 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 Contractor's obligations under this Contract Agreement or any other related agreement or otherwise, any fraud or negligence attributable to the Contractor or its Agents or Sub-Contractors, 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 Agreement on the part of IHMCL.
- (b) The Contractor shall indemnify IHMCL and NHAI and M/o RTH of all legal obligations of its professionals deployed. IHMCL and NHAI and M/o RTH also stand absolved of any liability on account of death or injury sustained by the Contractor's staff during the performance of their work and also for any damages or compensation due to any dispute between the Contractor and its staff.
- (c) The remedies provided under this Article are not exclusive and shall not limit any rights or remedies that may otherwise be available to IHMCL Indemnified Party at law or in equity.
- (d) The provisions of this Article shall survive Termination.

1.2.42. Compensation for default by the Contractor

- 1) In the event of the Bidder being in breach of this Contract Agreement, unless such default or delay is on account of Force Majeure or through no fault of the Contractor, the Contractor shall pay to IHMCL, all direct costs suffered or incurred by IHMCL as a consequence of such breach, within 30 days of receipt of the demand supported by necessary particulars thereof.
- 2) The Contractor shall pay to IHMCL all direct costs suffered or incurred by IHMCL incurred as a result of any and all losses, claims, damages and liabilities (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, such as fees and expenses incurred), joint or several, that arise out of, or based upon:
 - (i) any untrue statement or misrepresentation of a material fact provided by the Contractor or an omission to state a material fact required to be communicated;
 - (ii) any non-performance or breach of the roles, responsibilities, representations, warranties, undertakings and declarations contained herein by the Contractor or its directors, employees, personnel or representatives.
 - (iii) negligence, fraud or misconduct of the Contractor or any of its employees, agents, affiliates or advisors.

1.2.43. Cap on Liability of Parties

- a) Notwithstanding Subject to Clause 1.2.43(b), the aggregate liability of Bidder (and its Affiliates) to the IHMCL for any Losses arising in connection with this Agreement, whether based upon an action or claim in contract, tort (including negligence), misrepresentation, equity or otherwise (including any action or claim arising from the acts or omissions of the Bank (or, as the case may be, its Affiliate)) shall not exceed the Contract value.
- b) The limitation described in Clause 1.2.43(a) above will not apply to (i) Bidders's obligations under Clauses 1.2.28 [Confidentiality of the Assignment/Findings] or 6.13 [Indemnity].
- c) Bidder has a duty to mitigate the damages and any amounts payable under an indemnity that would otherwise be recoverable from the IHMCL pursuant to signing of the resultant Agreement by taking appropriate and commercially reasonable actions to reduce or limit the amount of such damages or amounts.

1.2.44. Representation and warranties of the Contractor

The Contractor declares, represents, and warrants as follows:

- 1) It is duly organized and validly existing under the laws of India, and has full power

and authority to execute and perform its obligations under this Contract Agreement and to carry out the works and provide services contemplated hereby;

- 2) It has taken all necessary corporate actions under Applicable Laws to authorize the execution and delivery of this Contract Agreement and to validly exercise its rights and perform its obligations under this Contract Agreement;
- 3) It has obtained all necessary internal/external approvals, registrations and certifications required from relevant authorities and other entities for fulfilling its obligations as set out in this Contract Agreement;
- 4) It has not violated any of the conditions subject to which such approvals, registrations and certifications have been granted or any other applicable regulations and / or guidelines or directives or statutes;
- 5) It shall ensure that such approvals, registrations and certifications will remain in force, including, by taking prompt steps for timely renewal of the same;
- 6) It undertakes to continue to comply with all Applicable Laws with respect to its roles / obligations under this Contract Agreement;
- 7) There are no actions, suits, proceedings, or investigations pending 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 Agreement 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 Agreement;
- 8) Deleted
- 9) No representation or warranty by the Contractor contained herein or in any other document furnished by it to IHMCL in relation to Applicable Laws contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- 10) No sums, in cash or kind, have been paid or will be paid, by or on behalf of the Contractor, to any person by way of fees, commission or otherwise for securing the award of this Contract Agreement or for entering into this Contract Agreement or for influencing or attempting to influence any officer or employee of IHMCL in connection therewith.

1.2.45. Exit Management

1. The bidder shall submit a structured & detailed Transition and Exit Management plan to IHMCL along with the bid.

2. At the end of the contract period or during the contract period, if any other agency is identified or selected for providing services related to the scope of work, the bidder shall ensure that a proper and satisfactory handover is made to the other agency.
3. All risk during transition stage shall be properly documented by the bidder and mitigation measures shall be planned to ensure a smooth transition without any service disruption.
4. The bidder must ensure that no end of support products exist at time of transition.
5. The bidder must provide notice 06 (six) months in advance before starting the exit management activities.
6. The transition & exit management period will start 6 (six) months before the expiration of the contract. The bidder will provide shadow support for at least three months and secondary support for an additional three months before the end of the O&M period or termination of the contract or mutually exit, as applicable at no additional cost to IHMCL. In case of termination, the exit management period will start from effective date of termination, or such other date as may be decided by IHMCL but no later than 3 months from effective date of termination.
7. Closing off all critical open issues as on date of exit. All other open issues as on date of Exit shall be listed and provided to IHMCL.
8. The bidder shall provide all necessary knowledge transfer and transition support. The deliverables are indicated below:
 - a) Updated transition plan on periodic basis.
 - b) Complete documentation for the entire system handed over to the IHMCL /identified agency.
 - c) Handover of all AMC support related documents, credentials etc. for all OEM products supplied/maintained in the system.
 - d) Handover of the list of complete inventories of all assets created for the project.
 - e) Assisting the new agency/ IHMCL with the complete audit of the system including
 - f) Detailed walk-throughs and demos for the solution.
 - g) Handover of all data generated during the contract period, along with project documentation, including images, videos, and other applicable materials, shall be provided to IHMCL at no additional cost.
 - h) Knowledge transfer of the system to IHMCL to the satisfaction of the prescribed conditions per the specified timelines.
9. The bidder shall be released from the project once successful transition is completed by meeting the parameters defined for successful transition.

10. Any new gantry constructed by the bidder under this project shall be handed over to IHMCL along with all civil works, electrical fixtures in a good, workable, and painted condition as per the conditions outlined in the RFP.

1.2.46 Right of Inspection:

- a) The Authority reserves the right to conduct checks including surprise checks at any time, to check/observe/witness the activities of the bidder including the gantry and control center and to monitor or to ensure that any or all the activities are being carried out properly by the personnel deployed by the bidder.
- b) The Authority may exercise any check/control to ensure discharge of various obligations by the bidder under the Contract including but not limited to following:
 - i. Correctness of the collected charges from users.
 - ii. Maintenance of proper registers including those relating to collection of charges from eligible vehicles.
 - iii. Checking data in electronic/soft form.
 - iv. Maintain the gantry and control center and its appurtenances by the bidder at its cost and ensure that they are in good running condition.
 - v. Arrangements for lighting at Gantry locations are in order.
 - vi. There is no delay to the traffic due to procedure of collection of charges from eligible vehicles any blockage/hinderance to the passing vehicles; and
 - vii. Any other check or control as considered appropriate by the Authority including through its authorized representative.
 - viii. Checking spare quantity to maintain the SLA as mentioned in the Contract Agreement.

Schedule-A

Schedule-A

Site of the Project

1. The Site

- (i) The Gantries shall be installed at the following locations along the merging of WPE and EPE with Roads/Highways towards Delhi-NCR Region as under:

Sr. No.	Project	Interchange	Intersection Road	Geo Codes	Location on	Location Identified for Gantry construction	Nearest Power Source	Authority	Concessionaire	No. of Lanes	Direction
1	WPE	KMP Cloverleaf Interchange (Kundli)	NH-44	28.911742, 77.106591	NH-44	550 mtr from WPE Under Bridge 70 mtr after Slip Road End	550 mtr to WPE Under Bridge	HSIIDC/ NHAI		3	Towards Delhi
2	EPE	Mavikalan Toll Plaza	NH-709B	28.875270, 77.250343	NH-709B	180 mtr from Mavikalan Toll Ramp Plaza 12 mtr after Slip Road End	180 mtr to Mavikalan Toll Ramp Plaza	NHAI	NCR EPE Private Limited (Maple Highways)	3	Towards Delhi
3	EPE	Badagaon Toll Plaza (Trilok Dham)	Badagaon Tyagi Road - State Road (SH/PWD/Village Road)	28.868921, 77.324205	Badagaon Tyagi Road - State Road (SH/PWD/Village Road)	100 mtr from Badagaon Ramp Toll Plaza 42 mtr from EPE Underpass (Bridge)	100 mtr to Badagaon Ramp Toll Plaza	NHAI/State	NCR EPE Private Limited (Maple Highways)	2	Towards Delhi
4	EPE	Duhai Toll Plaza	Old Delhi Meerut Road	28.732763, 77.476883	Old Delhi Meerut Road	105 mtr from Duhai Ramp Toll Plaza 50 mtr after Slip Road End	105 mtr to Duhai Ramp Toll Plaza	NHAI	NCR EPE Private Limited (Maple Highways)	3	Towards Delhi
5	EPE	Rasoolpur Toll Plaza	NE-3	28.703116, 77.520624	NE-3	150 mtr from EPE-DME Bridge 370 mtr from Rasoolpur Ramp Plaza	370 mtr to Rasoolpur Ramp Plaza	NHAI	Cube Highways/NCR EPE Private Limited (Maple Highways)	3	Towards Delhi

Indian Highways Management Company Limited

Sr. No.	Project	Interchange	Intersection Road	Geo Codes	Location on	Location Identified for Gantry construction	Neareast Power Source	Authority	Concessionaire	No. of Lanes	Direction
6	EPE	Dasna Toll Plaza	NH-09	28.685314, 77.525326	NH-09	250 mtr from Dasna Ramp Plaza 65 mtr from Slip Road	250 mtr to Dasna Ramp Plaza	NHAI	Cube Highways/NCR EPE Private Limited (Maple Highways)	5	Towards Delhi
7	EPE	Dadri Toll Plaza	GT Road (NH-334C)	28.522259, 77.593533	GT Road (NH-334C)	375 mtr from Dadri Ramp Toll Plaza 32 mtr from Slip Road End	375 mtr to Dadri Ramp Toll Plaza	NHAI	Cube Highways/NCR EPE Private Limited (Maple Highways)	3	Towards Ghaziabad/Delhi
8	EPE	Fatehpur Rampur Toll Plaza	PWD/GNDA Road	28.439792, 77.584641	PWD/GNDA Road	350 mtr from Fatehpur Rampur Ramp Toll Plaza At the End of Slip Road	350 mtr to Fatehpur Rampur Ramp Toll Plaza	NHAI/GNDA	NCR EPE Private Limited (Maple Highways)	3	Towards Noida/Delhi
9	EPE	Fatehpur Rampur Toll Plaza	PWD/GNDA Road (Bulandshahr Road)	28.432183, 77.582141	PWD/GNDA Road (Bulandshahr Road)	35 mtr from EPE Underpass (Bridge) 750 mtr from Fatehpur Rampur Ramp Toll Plaza	750 mtr to Fatehpur Rampur Ramp Toll Plaza	NHAI/GNDA	NCR EPE Private Limited (Maple Highways)	2	Towards Noida/Delhi
10	EPE	Yamuna Expressway Interchange	Yamuna Expressway	28.37375052 77.5352476	Yamuna Expressway	Under Yamuna Expressway Underpass (Bridge) 290 mtr to Yamuna Expressway Interchange (Currently Under Construction)	290 mtr to Yamuna Expressway Interchange (Currently Under Construction)	NHAI/YEIDA	Jaypee/Yeida/NCR EPE Private Limited	3	Towards Noida/Delhi
11	EPE	Yamuna Expressway Interchange	Yamuna Expressway (Service Road)	28.373429, 77.535025	Yamuna Expressway (Service Road)	Under Yamuna Expressway Underpass (Bridge) 325 mtr to Yamuna Expressway Interchange (Currently Under Construction)	325 mtr to Yamuna Expressway Interchange (Currently Under Construction)	NHAI/YEIDA	Jaypee/Yeida/NCR EPE Private Limited	2	Towards Noida/Delhi
12	EPE	Chainsa (Mojpur) Toll Plaza	Atali Main Road	28.2812043, 77.4368613	Atali Main Road	330 mtr from Chainsa (Mojpur) Ramp Toll Plaza 60 mtr after Slip Road End	330 mtr to Chainsa (Mojpur) Ramp Toll Plaza	NHAI/State	NCR EPE Private Limited (Maple Highways)	2	Towards Atali/Faridabad/Delhi

Indian Highways Management Company Limited

Sr. No.	Project	Interchange	Intersection Road	Geo Codes	Location on	Location Identified for Gantry construction	Neareast Power Source	Authority	Concessionaire	No. of Lanes	Direction
13	EPE	Sihol/Peelak Toll Plaza	Aligarh Palwal Road (NH-334D)	28.128121, 77.405376	Aligarh Palwal Road (NH-334D)	390 mtr from Sihol/Peelak Ramp Toll Plaza 35 mtr after Slip Road	390 mtr to Sihol/Peelak Ramp Toll Plaza	NHAI	Cube Highway s/NCR EPE Private Limited (Maple Highway s)	2	Towards Palwal /Delhi
14	EPE	EPE Cloverleaf Interchange (Palwal)	Delhi Agra National Highway (Old NH-2)	28.103132, 77.333620	Delhi Agra National Highway (Old NH-2)	405 mtr from Ramp Plaza (Currently Non-Operational) 117 mtr after Slip Road End	405 mtr to Ramp Plaza (Currently Non-Operational)	NHAI	Cube Highway s/NCR EPE Private Limited (Maple Highway s)	3	Towards Palwal /Delhi
15	WPE	-	Hathin Palwal Road	28.113868, 77.283821	Hathin Palwal Road	Underpass of WPE	Need to Arrange	State/PWD/Village	HSIIDC/State	2	Towards Palwal /Delhi
16	WPE	-	Nuh Road (SH-134)	28.135630, 77.257328	Nuh Road (SH-134)	Underpass of WPE	Need to Arrange	State/PWD/Village	HSIIDC/State	2	Towards Palwal /Delhi
17	DND-KMP Expressway	Kiranj Toll Plaza	DND-KMP Expressway	28.192292, 77.173560	DND-KMP Expressway	450 mtr from Kiranj Toll Plaza	450 mtr to Kiranj Toll Plaza	NHAI	NHAI	3	Towards Palwal /Delhi
18	DVE (NE-4)	Khalilpur Toll Plaza	DVE (NE-4)	28.167859, 77.149262	DVE (NE-4)	1050 mtr from DVE-KMP Underpass (Bridge)	Need to Arrange	NHAI	NHAI	3	Towards Sohna /Delhi
19	WPE	Nuh Toll Plaza	NH-248A (Nuh-Sohna Road)	28.180729, 77.071828	NH-248A (Nuh-Sohna)	395 mtr from Nuh Toll Plaza 37 mtr after Slip Road Start	395 mtr to Nuh Toll Plaza	NHAI/HSIIDC	NHAI/HSIIDC	2	Towards Sohna /Delhi
20	WPE	Tawadu Toll Plaza	NH-919 (Tawadu-Sohna Road)	28.221257, 76.994707	NH-919 (Tawadu-Sohna Road)	400 mtr from Tawadu Toll Plaza 35 mtr after Slip Road Start	400 mtr to Tawadu Toll Plaza	NHAI/HSIIDC	NHAI/HSIIDC	2	Towards Sohna /Delhi
21	WPE	-	Naurangpur - Tawadu Road	28.248022, 76.959909	Naurangpur - Tawadu Road	Underpass of WPE	Need to Arrange	State/PWD/Village/HSIIDC	HSIIDC/State	2	Towards Gurgaon/Delhi
22	WPE	Manesar Toll Plaza	NH-48 (Delhi Jaipur Highway)	28.321963, 76.898236	NH-48 (Delhi Jaipur Highway)	1.14 Km from Manesar Toll Plaza 250 mtr after Slip Road End	1.14 Km from Manesar Toll Plaza	NHAI/HSIIDC	NHAI/HSIIDC	5	Towards Gurgaon/Delhi

Indian Highways Management Company Limited

Sr. No.	Project	Interchange	Intersection Road	Geo Codes	Location on	Location Identified for Gantry construction	Neareast Power Source	Authority	Concessionaire	No. of Lanes	Direction
23	WPE	Patudi (Gurgaon) Toll Plaza	Pataudi Road (NH-352W)	28.395858, 76.868614	Pataudi Road (NH-352W) - Under Construction	520 mtr from Patudi (Gurgaon) Toll Plaza 37 mtr after Slip Road	520 mtr to Patudi (Gurgaon) Toll Plaza	NHAI/HSIIDC	NHAI/HSIIDC	2	Towards Gurgaon/Delhi
24	WPE	-	Farukhnagar Wazipur Road	28.437395, 76.861863	Farukhnagar Wazipur Road	Underpass of WPE	Need to Arrange	HSIIDC/ NHAI	HSIIDC/ State	2	Towards Gurgaon/Delhi
25	WPE	Farruknagar Toll Plaza	Farukhnagar Gurgaon Road	28.459381, 76.856965	Farukhnagar Gurgaon Road	Underpass of WPE 450 mtr from Farukhnagar Toll Plaza	450 mtr to Farukhnagar Toll Plaza	HSIIDC	HSIIDC	2	Towards Gurgaon/Delhi
26	WPE	-	Basai Road (Badali) SH-136	28.561110, 76.822626	Basai Road (Badali) SH-136	Underpass of WPE	Need to Arrange	HSIIDC/ State	HSIIDC/ State	2	Towards Gurgaon/Delhi
27	WPE	Badali Toll Plaza	Najafgarh Dhansa Road (SH-123)	28.568294, 76.825090	Najafgarh Dhansa Road (SH-123)	130 mtr after Slip Road End 520 mtr from Badali Toll Plaza	520 mtr to Badali Toll Plaza	HSIIDC/ State	HSIIDC/ State	2	Towards Najafgarh/Delhi
28	WPE	-	Badali Road (SH-136)	28.581421, 76.819410	Badali Road (SH-136)	Underpass of WPE	Need to Arrange	HSIIDC/ State	HSIIDC/ State	2	Towards Najafgarh/Delhi
29	WPE	-	Jhajjar Bahadurgarh Road	28.658928, 76.816076	Jhajjar Bahadurgarh Road	Underpass of WPE	Need to Arrange	HSIIDC/ State	HSIIDC/ State	2	Towards Bahadurgarh/Delhi
30	WPE	-	Bahadurgarh Mattan Beri Road	28.698098, 76.830239	Bahadurgarh Mattan Beri Road	Underpass of WPE	Need to Arrange	HSIIDC/ State	HSIIDC/ State	2	Towards Bahadurgarh/Delhi
31	WPE	Asoda Toll Plaza	Delhi Rohtak Road	28.729413, 76.850987	Delhi Rohtak Road	800 mtr from Asoda Toll Plaza 78 mtr after Slip Road End	800 mtr from Asoda Toll Plaza	NHAI/HSIIDC	NHAI/HSIIDC	3	Towards Delhi
32	WPE	Kharkhoda Toll Plaza	Banda Singh Bahadur Marg	28.855326, 76.944579	Banda Singh Bahadur Marg	Underpass of WPE 470 mtr from Kharkhoda Toll Plaza 60 mtr after Slip Road	470 mtr to Kharkhoda Toll Plaza	HSIIDC/ State	HSIIDC/ State	2	Towards Delhi
33	WPE	-	Bhainswal Distributory Road	28.903854, 77.009460	Bhainswal Distributory Road	Underpass of WPE		HSIIDC/ State	HSIIDC/ State	3	Towards Naharwa/Delhi

Indian Highways Management Company Limited

Sr. No.	Project	Interchange	Intersection Road	Geo Codes	Location on	Location Identified for Gantry construction	Nearest Power Source	Authority	Concessionaire	No. of Lanes	Direction
34	WPE	-	Garhi Bindroli Road to Majra Road Connector	28.914260, 77.043919	Garhi Bindroli Road to Majra Road Connector	Underpass of WPE		HSI IDC/ State	HSI IDC/ State	2	Towards Majra/ Delhi
35	WPE	-	Sonipat Narela Road	28.917628, 77.063908	Sonipat Narela Road	Underpass of WPE		HSI IDC/ State	HSI IDC/ State	2	Towards Narela /Delhi

1.1. Annex – I (Schedule-A)

1.1.1. Site

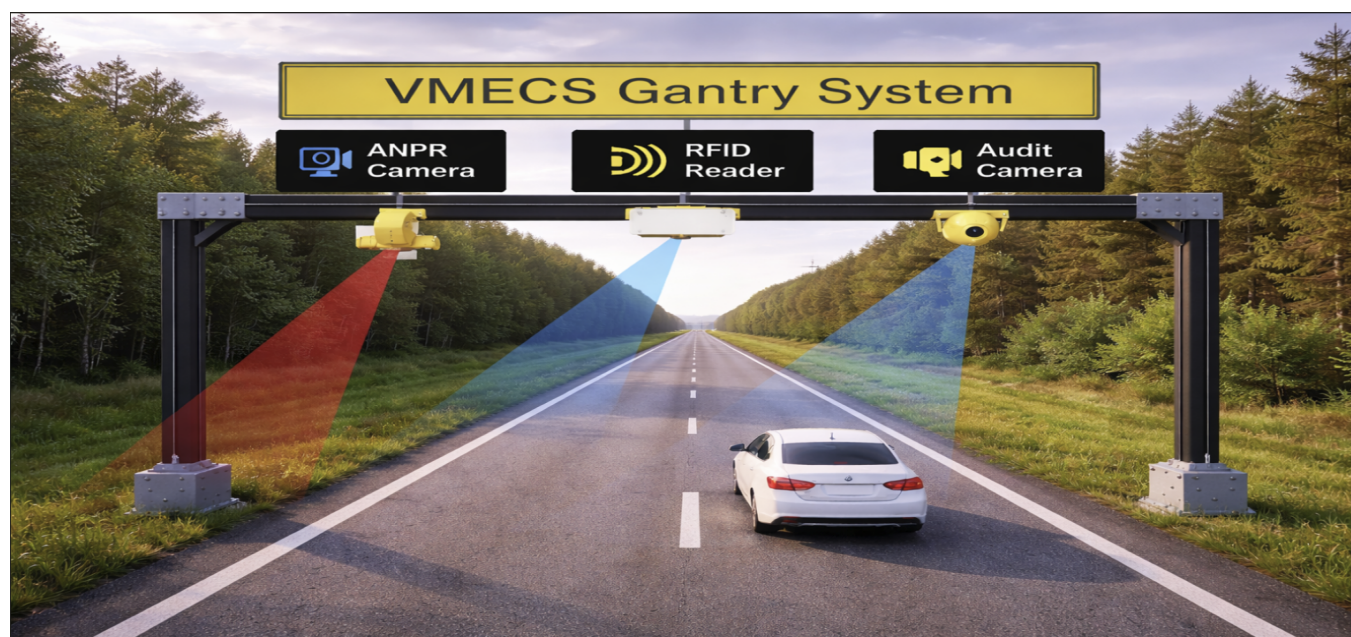
The Site comprises locations along the **merging/interchange points of the Western Peripheral Expressway (WPE) and Eastern Peripheral Expressway (EPE) with various National/State Highways and connecting roads leading towards the Delhi-NCR region.** The scope includes installation of gantries and associated infrastructure at identified locations **towards the Delhi-NCR region.**

1.1.2. VMECS Gantry and Control Centre Location

The Site of the projects comprises the proposed Gantries and control centre locations described in Table A-1.

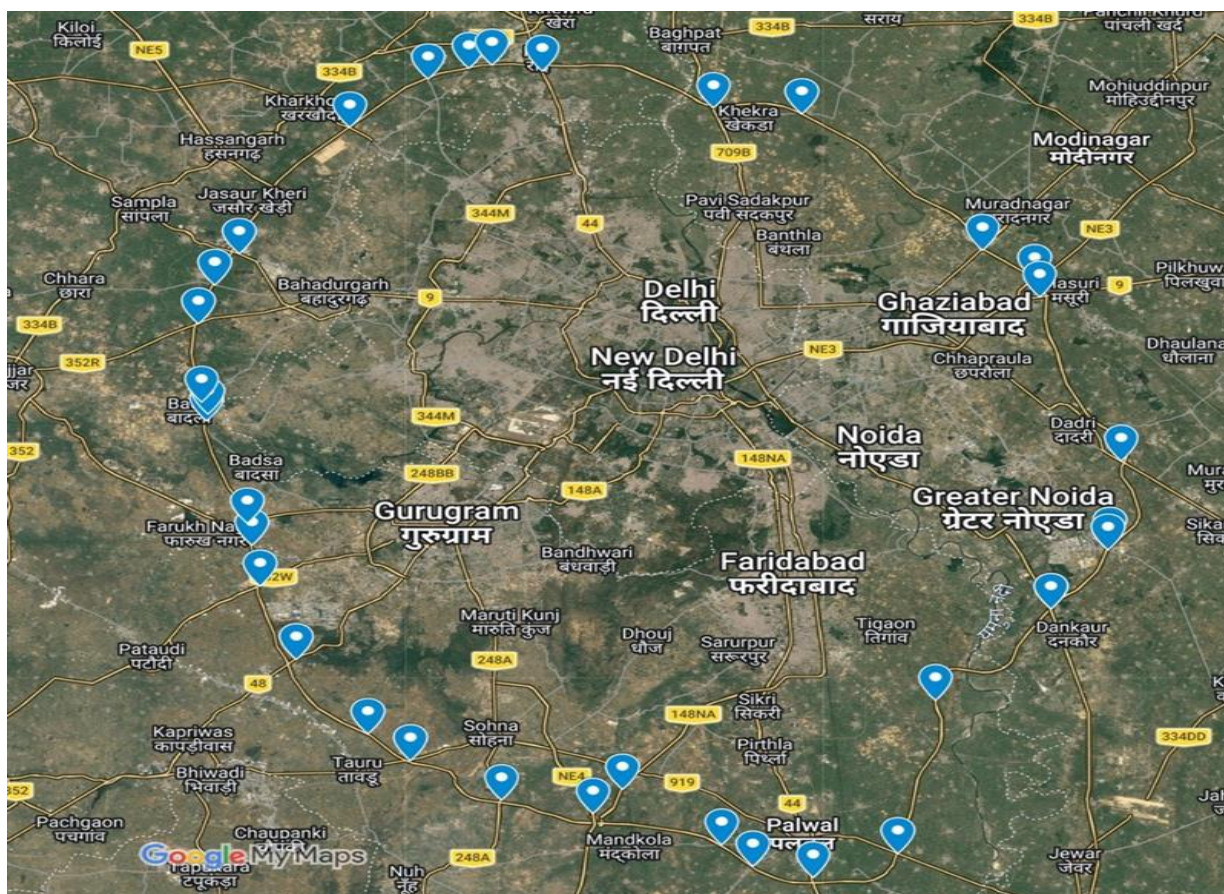
Location of Gantries	Location of Site Control Centre (Porta Cabin)	Location of Central Command & Control Centre
As per Schedule A (Clause-01)	At nearby suitable locations of Gantries of Schedule A (Clause-01)	To be Finalized at any location in Delhi National Capital Region as provided by IHMCL

1.1.3. Appendix A-1



Typical Gantry Design

1.1.4. Index map of project



Identified 35 Gantries Locations

Schedule - B

Schedule-B

1. General

- a) The Authority has envisaged the implementation of a Vehicle Monitoring, Enforcement and Collection System (VMECS) for the Project to enable accurate monitoring of vehicles passing through gantries for enforcement of regulatory provisions and collection of applicable charges, as notified by the Government from time to time, through FASTag in a seamless, automated, barrier-free electronic environment.
- b) The Successful Bidder shall be responsible for the design, development, testing, commissioning, operation, and maintenance of the VMECS at the locations specified in Schedule A, including end-to-end integration with the NETC ecosystem, designated Acquirer Bank systems (including NETC Switch and Mapper), and National Informatics Centre (NIC) systems, to enable real-time vehicle identification, validation, transaction processing, and generation of e-Notices, as applicable.
- c) The VMECS shall comprise gantry-mounted field equipment and sensors for capturing vehicle data, which shall be transmitted to the VAHAN registry of NIC for validation, and thereafter, details of eligible vehicles shall be transmitted to the NETC ecosystem through the designated Acquirer Bank for FASTag-based transaction processing and/or issuance of e-Notices.
- d) The Contractor shall ensure that the System is designed and implemented in accordance with the applicable technical specifications, standards, and procedural guidelines issued by IHMCL, NPCI, and other relevant authorities, and shall support real-time processing of all vehicle transactions.
- e) The Contractor shall ensure continuous operation of the System on a 24x7x365 basis, with adequate redundancy in all critical components including field equipment, servers, network, power supply, and communication infrastructure, to meet the prescribed Service Level Agreements (SLAs).
- f) The Contractor shall maintain high availability of the entire System, including servers, network, bandwidth, and application services, and shall ensure uninterrupted connectivity through provision of primary and secondary internet leased lines from different service providers at all gantry locations and the Control Centre.
- g) The Contractor shall be responsible for procurement, deployment, and maintenance of all hardware, software, licenses, and associated infrastructure required for the Project. All software used shall be duly licensed, legally procured, and compliant with applicable laws, and use of any unlicensed or unauthorized software shall constitute a material breach of the Contract.
- h) The Contractor shall ensure availability of adequate spares and consumables at all times to meet SLA requirements, including maintaining a minimum of ten percent (10%) spare quantity of critical equipment during the Contract Period, at no additional cost to the Authority.
- i) The Contractor shall ensure reliable power supply at all locations, with primary supply from the grid and backup through UPS and other secondary/renewable sources, to

ensure uninterrupted operations. All electricity and associated costs shall be borne by the Contractor.

- j) The Contractor shall adhere to all SLA parameters specified in the Contract and shall ensure that the System consistently meets the required performance standards.
- k) The Contractor shall maintain proper records and submit to the Authority, within seven (7) days of completion of each month, details of total vehicles detected, data transmitted to NIC, and details of eligible vehicles transmitted to the designated Acquirer Bank, and shall furnish any additional information as may be required by the Authority from time to time.
- l) The Contractor shall execute a Non-Disclosure Agreement (NDA) with the Authority immediately upon award of the Contract, and shall ensure confidentiality, integrity, and security of all data, information, and materials associated with the Project.
- m) The Contractor shall maintain the highest standards of operational transparency throughout the Contract Period and shall fully cooperate with the Authority for monitoring, audit, and review of the System and its performance.

2. Development of VMECS Components & Gantry System

- n) The scope of the Project shall include the design, supply, installation, testing, commissioning, and operation & maintenance of the integrated Vehicle Monitoring, Enforcement and Collection System (VMECS) at the project locations, including vehicle detection, and enforcement, identification of eligible vehicles, and seamless collection of applicable charges, as detailed in *Schedule-B* and *Schedule-C* of this RFP.
- o) The Vehicle Monitoring, Enforcement and Collection System(VMECS) Project shall broadly include, but not limited to the following components to be provided as per the functional and technical specifications mentioned in Schedule-C:
 - 1. Gantry suitable for mounting high performance equipment at locations mentioned at Schedule-A
 - 2. Radio Frequency Identification (RFID) Reader
 - 3. Radio Frequency Identification (RFID) Antenna
 - 4. Automatic Number Plate Reader (ANPR) Camera System and Application
 - 5. IR Illuminator
 - 6. Audit Surveillance Camera System and Application
 - 7. Networking and Communications through MPLS or any latest wired/wireless technology
 - 8. Software Application, Dashboard and Portal
 - 9. VMECS Central Control Center
 - 10. Power Supply for Field Equipment as well as for VMECS Control Center including illumination etc
 - 11. Operation & Maintenance (O&M) of the entire VMECS Facility

- p) **Integration with National Informatics Center:** The Bidder shall ensure detection of M and N category vehicle as defined under the Central Motor Vehicles Rules, 1989, passing through each gantry using the ANPR-FASTag based Vehicle Monitoring and Enforcement Camera System (VMECS). The captured vehicle registration number either through ANPR Camera or FASTag Reader shall be securely transmitted to National Informatics Centre through API-based integration with VAHAN platforms for vehicle validation, verification, and retrieval of vehicle-related information, including but not limited to the following minimum details:

- i. Vehicle Registration Number
- ii. Vehicle Class / Categor
- iii. Commercial / Non-Commercial
- iv. Fuel Type
- v. Number of Axle
- vi. Gross Vehicle Weight
- vii. Bharat Stage (BS) Emission Standard / Euro Standard
- viii. Vehicle Make, Model and Color
- ix. Fitness Validity
- x. Insurance Validity
- xi. Pollution Validity
- xii. Registration Validity

- q) The Bidder shall construct the Gantries at locations mentioned at Schedule-A such that each gantry shall cover a minimum of two (2) lanes and up to five (5) lanes, as per site condition, ensuring that the entire traffic flow towards Delhi is effectively captured under the VMECS Gantry system.
- r) The Bidder shall be fully responsible for ensuring the continuous safety, security, and illumination of the installed gantries, covering all necessary measures to protect the infrastructure and provide clear visibility under all weather and lighting conditions.

Note: The bidder shall be required to submit detailed design drawings including design calculations of gantries which should be approved from any of the Indian Institute of Technology (IIT)/ National Institute of Technology (NIT).

- s) The Bidder shall ensure that the operational status of each VMECS gantry is displayed on a GIS-based map, reflecting 100% system functionality at the respective gantry.
- t) The VMECS at each gantry shall be equipped with critical components including RFID Readers, ANPR Cameras, and Audit Cameras. Based on the data captured from these systems, the VMECS shall accurately identify the Vehicle Registration Number (VRN). The validated VRN data shall be transmitted to VAHAN/SAARTHI systems for retrieval of vehicle-related information as specified in the RFP. Based on the data received from VAHAN/SAARTHI, the VMECS shall determine the eligibility of vehicles and classify them as eligible or ineligible for charge enforcement. The system shall further match the vehicle class obtained from VAHAN/SAARTHI with the vehicle class data received through

FASTag to ensure consistency prior to processing. Only transactions pertaining to eligible vehicles shall be transmitted to the designated Acquirer Bank for further processing.

- u) The VMECS shall also incorporate logic to ensure that vehicle data is captured and processed only for the intended direction of traffic. In cases where the road section does not have a physical median or directional separation, the system shall be configured to capture and process data only for vehicles of the intended direction of traffic. Any vehicle in opposite direction shall not be considered for data capturing, and such transactions—including FASTag reads and VRN data—shall not be transmitted to VAHAN/SAARTHI systems. Further, the system shall ensure that reverse-direction or invalid directional movements are not processed.
- v) The Bidder shall ensure backup of images and videos for the duration specified in the RFP. Video backups shall be readily available at all times at the gantry system through the video recorder storage system. Transaction data and images shall be transmitted to the Central Control Centre, while video recordings shall be stored locally at the gantry system. The system shall provide on-demand access for live monitoring, playback of recorded footage, and downloading of historical recordings.

w) **Network & Connectivity:**

- i. The Bidder shall provide, at each gantry location, one Primary and one Secondary internet connectivity from two different service providers to ensure high system availability. Each link shall have a minimum bandwidth of 100 Mbps, through MPLS or a dedicated leased line. Automatic failover shall be configured to ensure uninterrupted transaction processing and data transmission in the event of failure of any one link.
- ii. The Bidder may adopt MPLS or any proven alternate technology for data transmission to the Central Command and Control Centre.
- iii. The connectivity shall be provided only by telecom operators holding a valid Unified License (UL) or Internet Service Provider license issued by the Department of Telecommunications, Government of India, and the Bidder shall ensure that connectivity is provisioned directly through the licensed operator's backbone infrastructure.
- iv. All gantry equipment shall be synchronized through GPS/NTP-based time synchronization to maintain uniform timestamping of transactions and enforcement records. The Bidder shall also ensure secure logging, encryption of transmitted data, and storage of transaction logs locally for a minimum retention period as specified by the Authority.
- v. All data stored at the Gantry level system shall be replicated to the Central Control Centre in real time. Any data accessible at the gantry system shall be simultaneously accessible at the Central Server. In the event of any communication failure between the Gantry and the Central Server, the VMECS at the gantry shall continue to operate in standalone mode, ensuring uninterrupted data capture and storage at the local level. The Bidder shall ensure zero data loss during such outages. Upon restoration of connectivity, the system shall automatically synchronize and transmit all locally stored data to the Central Command and Control Centre in a secure and complete manner.

- x) **Road Safety Measures at Gantry Locations:** The Bidder shall provide adequate road safety and visibility measures at each gantry location to safeguard the gantry structure from accidental vehicle impact. This shall include installation of high-intensity reflective tapes, hazard markers, warning signages, bollards/crash barriers, and any other approved safety devices as per relevant IRC/road safety standards. The Bidder shall ensure that these measures remain visible during night and adverse weather conditions and are properly maintained throughout the contract period.
- y) **Central Command and Control Centre**
- i. The Common Control Centre (CCC) shall be established at a location provided by the Authority and shall function as the central hub for monitoring, validation, enforcement processing, and charges as notified by Government computation and collection from eligible vehicles under the Vehicle Monitoring, Enforcement and Collection System (VMECS). All gantry-based detections shall be received, processed, and verified at the CCC prior to enforcement action or financial processing.
 - ii. The Bidder shall provision the Central Server either on a secure Government-compliant cloud platform (MeitY empanelled cloud-based infrastructure) or through a physical data centre setup. The infrastructure shall ensure high availability, redundancy, scalability, and compliance with applicable Government security standards.
 - iii. The Bidder shall supply, install, configure, and maintain all necessary equipment at the CCC including but not limited to: Central servers/cloud environment, 42U server rack, operator workstations with minimum 27" display, video wall for monitoring camera feeds, network colour printer, storage systems with RAID/NAS backup, camera servers/NVRs, and all associated peripherals. The system shall be deployed in accordance with the applicable Standards and Technical Specifications defined in the RFP.
 - iv. The Central Server shall aggregate data from all gantry locations in real time for processing, monitoring, reporting, enforcement validation, and archival. The system shall support centralized dashboards, audit logs, alert generation, and role-based access control for authorized personnel.
 - v. The Bidder shall be responsible for interior works, furniture and MEP works for construction and setting up of the VMECS Central Command and Control Centre, including all associated systems such as electrical works, lighting, power backup (UPS and renewable sources), HVAC, access control, air conditioning etc., all of which shall be within the scope of the Bidder.
 - vi. The Bidder shall ensure seamless integration of the Central System with National Informatics Centre for secure fetching and validation of vehicle-related data fields as defined in the RFP. All integrations shall follow prescribed API security protocols, authentication mechanisms, and data protection guidelines issued by Government authorities.
 - vii. The Central System shall be integrated at the central level with Acquirer Bank and NPCI for sharing of transaction data, computation of applicable charges, and facilitation of charge collection from respective issuer banks for eligible vehicles.

The Bidder shall ensure secure financial messaging, reconciliation mechanisms, and audit trails for all such transactions.

- viii. The Bidder shall implement redundancy at server, storage, and network levels. Automated backups shall be taken periodically and stored in a secure off-site or cloud location. A disaster recovery mechanism shall be maintained to ensure restoration of services within the time limits specified in the SLA.
- ix. The Bidder shall implement appropriate cybersecurity measures including firewalls, intrusion detection/prevention systems, encrypted communication channels, endpoint protection, and multi-factor authentication. Access to CCC systems shall be role-based and fully logged for audit purposes.
- x. The Bidder shall be responsible for the operation, cleaning, housekeeping, and preventive maintenance of all CCC infrastructure, equipment, and installations throughout the contract period. The Bidder shall ensure that the CCC remains operational, secure, and maintained in a professional condition at all times.
- xi. The Bidder's solution should include API based integration with future tolling technologies like GNSS and NHAI Applications like Raj Marg Yatra etc. or, Advance Traffic Management System (ATMS), any other similar system at no extra cost.
- xii. The Bidder shall provide automated reporting tools, analytics dashboards, and audit logs accessible to the Authority for monitoring system performance, transaction volumes, enforcement actions, and financial reconciliation.
- xiii. All transaction data, images, and video evidence generated under the Vehicle Monitoring, Enforcement and Collection System (VMECS) shall be securely stored, protected, and preserved in accordance with the data retention timelines specified in the RFP. The Bidder shall ensure integrity, availability, and retrievability of such data for audit, enforcement, and legal purposes throughout the prescribed retention period.
- xiv. The Bidder shall provision at the Central Command and Control Centre at least one Primary and one Secondary Internet connectivity from two different service providers to ensure uninterrupted operation of the VMECS platform. Each link shall be of adequate bandwidth (minimum 1 Gbps) through MPLS or dedicated leased line connectivity with automatic failover configuration. The connectivity shall be sourced only from telecom operators holding a valid Unified License issued by the Department of Telecommunications, Government of India, and shall be provisioned directly through the licensed operator's backbone network. The Bidder shall ensure high availability, low latency, and compliance with Government security and data protection requirements.
- xv. The Bidder shall ensure that the Central System operates on a 24x7 basis to support uninterrupted transaction processing, charge computation, and enforcement actions across all gantry locations. Redundancy, failover mechanisms, and secure backups shall be implemented to prevent any disruption in enforcement or revenue collection.

z) Power Supply for VMECS Command & Control Centre and Gantry Equipment

- i. The Bidder shall ensure 24×7 power supply for the VMECS Central Command and Control Centre and all gantry/field equipment. The primary power source shall be from the Electricity Department, supported by UPS systems and renewable power sources (such as solar) to ensure uninterrupted operations. DG Set, if required, may be provided by the bidder as an optional backup arrangement at its own cost.
- ii. There shall be no obligation on IHMCL/NHAI for providing power supply/connections for testing, commissioning, operation, or maintenance of any VMECS component. The following shall also apply:
 - 1. The Contractor shall undertake all necessary applications and approvals from the concerned Power Distribution Company for obtaining electricity connections for the Control Centre and gantry locations in its own name. All associated costs shall be borne by the Contractor. Any damage caused to highway infrastructure during execution shall be restored to its original condition at no additional cost to IHMCL/NHAI.
 - 2. The Contractor shall make complete arrangements for electricity required during execution and throughout the O&M period. In case of non-availability of grid power, the Contractor shall arrange alternate power sources such as renewable energy systems and/or DG Sets (optional). No extension of time shall be granted on account of failure to arrange power supply.
- iii. All costs related to power supply, including installation charges, electricity bills, backup systems, maintenance, etc., for gantry equipment, Control Centre, and other facilities shall be borne by the Contractor for the entire Contract period. IHMCL/NHAI shall have no financial liability in this regard.
- iv. The Bidder shall provide an online UPS system of minimum 06 KVA at each gantry to ensure uninterrupted operation of all VMECS components, with a minimum backup autonomy of 8 hours or as specified by the Authority. The UPS shall deliver clean and isolated power supply, equipped with surge protection and automatic changeover. The Bidder may, at its own cost, implement a solar-based power system for charging the UPS batteries to meet the SLA requirements. In such cases, the cost of the solar system shall be deemed to be included in the UPS system cost, and no additional payment shall be made by IHMCL.
- v. The Gantry system shall comply with applicable electrical and safety standards including proper earthing, surge protection and lightening arrestor.

3. Operations & Maintenance of the VMECS

- a) The O & M period after the successful completion of works shall include Operation & Maintenance of the entire VMECS Facility as per the Service Level Agreement (SLA) with Qualified Manpower mentioned in Schedule-C including supply of adequate spares, parts, consumables and maintenance equipment required for the facility. The Contractor shall maintain required spare parts to maintain required service levels.
- b) The Contractor shall have sufficient infrastructure and capability to keep/store

spares required for maintenances and will at all times during the contract period maintain sufficient inventory of spares and consumables for operating and maintaining the VMECS and to meet the Service Level Agreement.

- c) Before the start of O&M Period, the Contractor shall deploy the O&M Personal mentioned at Schedule-C with prior approval of the Authority. The resumes of the proposed personal shall be submitted for approval of the Authority.
- d) **System Infrastructure:** The Contractor shall undertake regular upkeep and preventive as well as corrective maintenance of all system components including RFID readers, cameras, gantry equipment, servers, and associated hardware to ensure optimal performance and availability. The Contractor shall also implement periodic software updates, upgrades, and security patches for all application software, firmware, and system platforms to enhance functionality, reliability, and security.
- e) **Network Management:** The Contractor shall ensure continuous and reliable network connectivity for real-time data transmission across all Gentries and the Control Centre. The Contractor shall proactively monitor network performance and promptly troubleshoot and resolve any connectivity or technical issues to minimize downtime and ensure adherence to SLA requirements.
- f) **Security Measures:** The Contractor shall implement and maintain robust security protocols and safeguards to protect all system data, including financial and personal information, against unauthorized access, cyber threats, and data breaches. The Contractor shall also establish mechanisms for monitoring system transactions and activities to detect, prevent, and respond to any fraudulent or suspicious activities.
- g) **Performance Monitoring:** The Contractor shall carry out periodic system audits and performance assessments to ensure reliability, efficiency, and compliance with SLA parameters. The Contractor shall also establish a feedback and reporting mechanism for capturing user inputs, analyzing system performance, and implementing necessary improvements on an ongoing basis.
- h) **Health Monitoring System:** The Contractor shall implement and maintain a centralized, enterprise-grade Network Management and Monitoring System (NMS) at the Command and Control Centre for comprehensive health monitoring of all VMECS equipment and infrastructure. The system shall uniquely identify and monitor each device through its MAC ID and/or other standard network identifiers, and shall support industry-standard protocols such as SNMP or equivalent for real-time monitoring.

The Health Monitoring System shall provide continuous visibility into the operational status, performance, availability, connectivity, and fault conditions of all field and backend components, including gantry equipment, sensors, cameras, servers, storage, and network devices. The system shall be capable of generating real-time alerts, automated notifications, diagnostics, performance reports, and audit logs to enable proactive maintenance and rapid fault resolution.

The Contractor shall ensure that the monitoring system is scalable, secure, and integrated with the overall VMECS architecture, and is capable of meeting the prescribed Service Level Agreements (SLAs) with respect to uptime, response time, and system reliability.

- i) **Maintenance Manual and Standard Operating Procedure (“SOP”)**: The Contractor shall design a detailed Maintenance Manual and SOP listing all the periodic maintenance activities to be taken for field equipment & CCC and roles and responsibilities of the personnel in the Command Centre and field units.

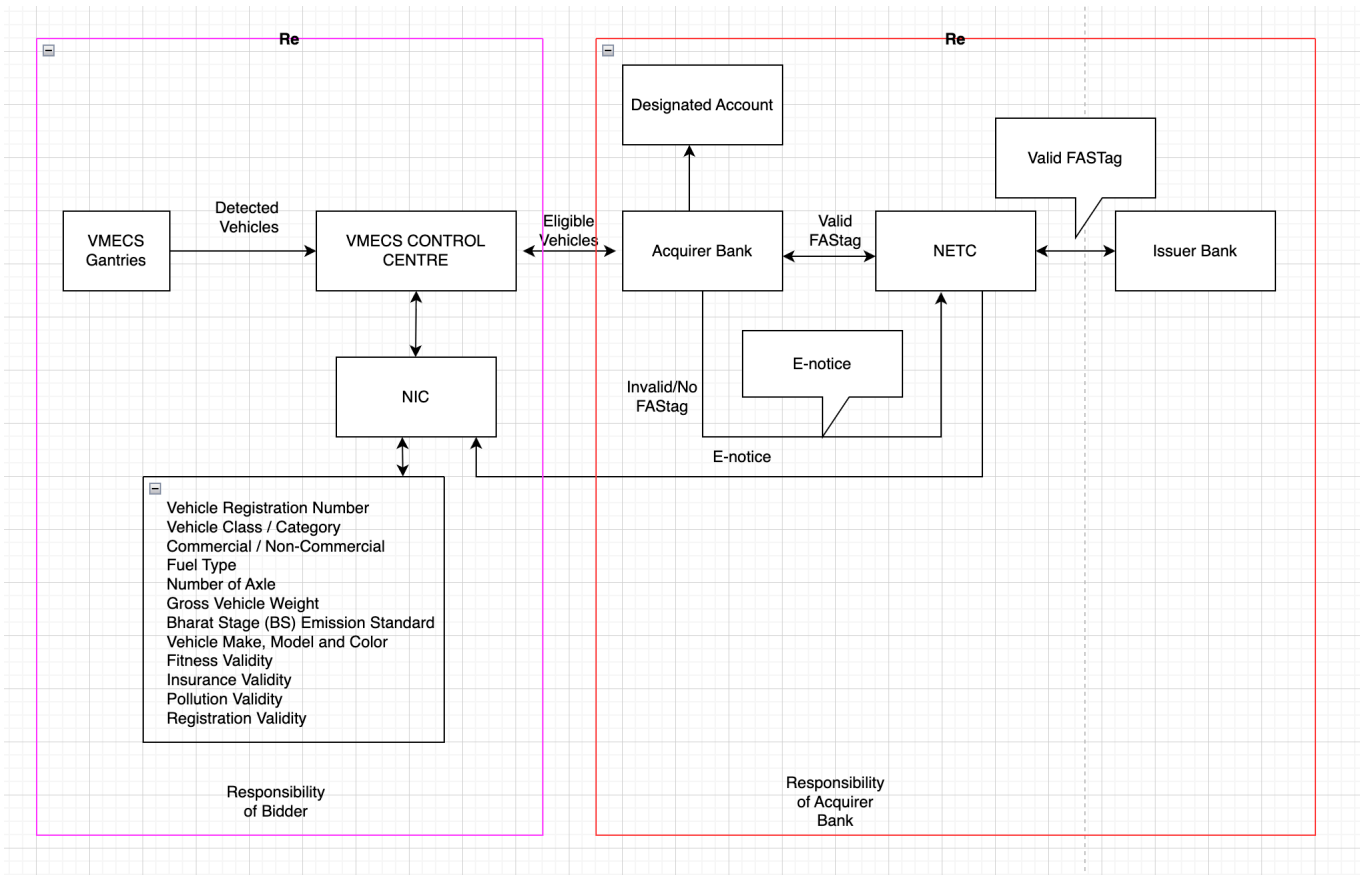
4. Maintenance Vehicles (Min 5 Nos)

The Bidder shall deploy and maintain a minimum of Five (05) dedicated Maintenance vehicles, along with qualified drivers, on a 24x7 basis for the operation and maintenance of gantry equipment. The vehicles shall be exclusively available for maintenance activities, including preventive and corrective maintenance, to ensure timely response and compliance with the Service Level Agreement (SLA) requirements. All associated costs, including fuel, maintenance, insurance, and driver expenses, shall be borne by the Bidder. Each vehicle shall cover roughly 50km stretch on WPE & EPE combined to facilitate maintenance works.

5. FASTag Transaction / e-Notice Integration with Acquirer Bank

The Contractor shall be responsible for identifying and transmitting details of all eligible vehicles, as notified by the Government from time to time, to the designated Acquirer Bank in real time or within the prescribed Turnaround Time (TAT), for the purpose of creation of FASTag transactions and/or generation of e-Notices, in accordance with the applicable Procedural Guidelines, standards, and protocols issued by NPCI / IHMCL. The Contractor shall ensure accuracy, completeness, and timeliness of such data transmission and shall be liable for any lapses affecting transaction processing or enforcement actions.

6. Indicative Process Flow of VMECS:



- a. **Integration with NIC:** The Bidder shall send the details of the vehicles to VAHAN (NIC) and SAARTHI for verification of eligibility of vehicles captured through the VMECS system, and shall maintain the data in accordance with the requirements specified in Schedule-B. Further, the Bidder shall ensure that the data/transactions of all eligible vehicles are send to the Acquirer Bank in compliance with the NETC guidelines.
- b. **Integration with Acquirer Bank:** The Bidder shall process all transactions from the VMECS system and send the transactions of all eligible vehicles to the Acquirer Bank for onward processing to the Central Clearing House (CCH), in accordance with the NETC guidelines, as amended from time to time.
- c. **Compliance with Interface Control Document (ICD) 2.5 or latest:** The bidder must ensure to comply with ICD 2.5 or latest specifications for processing the transactions.
- d. **Acquirer Bank:** The Acquirer Bank shall process all transactions received from the VMECS system in online mode only, ensuring accurate calculation of applicable charges, and shall transmit the transactions of all eligible vehicles to NPCI in accordance with the NETC guidelines, as amended from time to time.

In cases where invalid or no FASTag data is received from the VMECS system, the Acquirer Bank shall generate e-notices in accordance with the applicable MoRTH/NHAI guidelines. The VMECS system ensure complete reconciliation of all e-notice-related data and transactions.

7. Service Level Agreement

- i. The Parties acknowledge and agree that this Agreement is a VMECS Contract, and any breach of the Service Level Agreement (SLA) may result in significant financial losses to the Government, along with inconvenience to the public due to instances like wrong deductions, wrong issuance of e-notices, etc. Given the critical nature of the services provided under this Agreement, the penalties stipulated herein for any breach of the SLA are pre-estimated damages, representing the anticipated revenue losses and the disruption caused to the public.
- ii. The Parties further agree that these penalties are a genuine and reasonable estimate of the losses likely to be incurred due to non-compliance with the SLA by the bank and are intended to compensate the other party for the adverse impact of such breaches.
- iii. SLA shall be calculated separately for each gantry location.

SL #	Parameter	Timelines	Basis of measurement	Penalties
Implementation Phase				
1.	Supply, Installation, Testing and Commissioning, (Go-Live)	03 months from the date of signing of the Contract Agreement.	Signing of Contract Agreement	<ul style="list-style-type: none"> 0.20% of the Contract Value Per Day

				<ul style="list-style-type: none"> Delay beyond 50 days shall be considered as Material Breach of Contract.
Operation & Maintenance Phase				
2.	Manpower Availability (Bio metric Attendance is mandatory for deployed Manpower)	Attendance and availability of manpower	8 Hrs. per Shift	a) In case of non-availability of manpower flat 3000 Rs per person/ Day shall be applicable. b) In case, if the non-availability of manpower is consecutively observed by IHMCL for more than 5 days then bidder shall be liable to replace the manpower
Control Centre Equipment and Software				
SL no.	Parameter	Basis of measurement	Frequency	Penalties
3.	Availability of all VMECS Equipment	<p>The uptime availability of all equipment (as per BOQ mentioned in the RFP) of Vehicle Monitoring, Enforcement and Collection System (VMECS) at each Gantry and Central Control Centre system shall be 99.5% per month</p> <p>The downtime shall be calculated at a cumulative level for all equipment at each Gantry and all equipment at Central Control Centre.</p>	<p>Maximum permissible downtime:</p> <p>i. Each Gantry VMECS shall be 216 minutes per month.</p> <p>ii. Central Control centre system shall be 216 minutes per month.</p>	<p>a) Beyond 216 minutes, a penalty of Rs 1,00,000 per hour shall be applicable for each gantry VMECS and Central Control Centre.</p> <p>b) The upper limit of the penalty shall be equal to total Performance Security</p> <p>c) Beyond that, IHMCL may consider it as a case of breach and may take necessary actions.</p> <p>If system availability is below than 98%, it shall be considered as a breach</p>

Accuracy - Vehicle Count				
SL no.	Parameter	Basis of measurement	Accuracy	Penalties
4	Vehicle Count of M & N Category vehicles as per CMV rules 1989.	97% Vehicle count (on daily basis)	97%	a) For any missing count beyond the permissible limit ,a penalty of Rs 100000 shall be applicable Per day. b) Below 95% accuracy, shall be considered as breach. c) IHMCL reserves right to validate the accuracy through third party agency audit or check the daily vehicle count suitable sample analysis.
5	Accuracy of ANPR System	97% of VRN reading accuracy (on daily basis)	97%	a) For low accuracy beyond the permissible limit ,a penalty of Rs 100000 shall be applicable Per day. b) Below 95% accuracy, shall be considered as breach. c) IHMCL reserves right to validate the accuracy through third party agency audit or check the daily

				vehicle count suitable sample analysis.
5	Incorrect Reporting of vehicle details	Instance of reporting	-	<p>a) More than 4 instances of incorrect reporting of vehicle details in a calendar month as verified in sample checking - 30% deduction in the O&M payment for the plaza</p> <p>b) More than 2 Up to 4 instances of incorrect reporting of vehicle details in a calendar month as verified in sample checking -20% deduction in the O&M payment for the plaza</p> <p>c) Up to 2 instances of incorrect reporting of vehicle details in a calendar month as verified in sample checking - 10% deduction in the O&M payment for the plaza.</p>
6	Damages for Data Manipulation, Fudging or Other Fraudulent Practices	Case to Case		If the Implementation Agency is found manipulating any data that it reports or stores (including SLA reports but not limited to), a penalty of Rs 10,00,000 will be imposed with a warning and the if the fudging was related to SLAs the entire due amount for that month will be deducted. For any repeat instance of data fudging or manipulation, IHMCL may consider termination of the contract and forfeiture of performance bank guarantee.
System Accuracy – Instance Wise				
SL no.	Parameter	Basis of measurement	Frequency	Penalties
7.	Un availability of Images and video	The vehicle passed through the lane, Bidder must account for the	Per instance	Per Instance penalty shall be Rs 10,000 is applicable along with

		<p>vehicle through ANPR and audit surveillance cameras. Images and videos are not available it will be considered instance of unaccounted vehicle.</p> <p>IHMCL shall get the video from various cameras processed through third-party on sample or complete basis and arrive on count of vehicles that have passed through each lane.</p>		revenue loss incurred from unidentified vehicles.
8	Remote video Check	<p>IHMCL/Authority should be able to access any remote access through third party software or overview through IP and authentication details provided by NHAI/IHMCL/Authority.</p> <p>If for any reason (wrong, IP Password, network downtime etc.) the footage is not visible, or photo is not available in ANPR, Audit surveillance Camera then it will be considered a violation.</p> <p>Simple screenshot with a date time visible shall be enough to prove violation by IHMCL/NHAI/ Authority.</p>	Per instance	<p>Rs. 5000/- per camera per day.</p> <p>Same camera will not be checked again in the same day if violation found and recorded</p>
9	API based data sharing with IHMCL MIS/ERP system	API or uploads-based sharing of reports from software to IHMCL ERP/MIS as prescribed in the contract and any	Per instances	<p>Per Instance penalty shall be Rs 3000</p> <p>for data sharing missed by Bidder.</p>

		notification / circular issued from time to time.		
10	Improper Validation of Vehicle Details through VAHAN / SARATHI	In case the Bidder fails to validate detected vehicle details through VAHAN/SARATHI, or incorrect vehicle information is displayed for a detected vehicle, or wrong vehicle attributes are fetched from National Informatics Centre systems for computation of applicable charges, due to system errors, data mismatch, or API handling failures attributable to the Bidder.	Per instance	<p>A penalty of Rs. 10,000 per instance shall be levied.</p> <p>Repeated occurrences (more than ten (10) instances in a month) may trigger system audit and shall be considered as a breach.</p> <p><i>Note: In the event of any incorrect computation resulting in wrong charging of amount from eligible vehicles, the Bidder shall ensure that the collected amount is refunded to the affected user within T+1 days, where T is the date on which the case is reported to or observed by the Bidder.</i></p>

Spare Availability

SL no.	Parameter	Basis of measurement	Accuracy	Penalties
12	Availability of 10% spare of critical equipment <ul style="list-style-type: none"> • RFID Reader & Antenna, • Audit Surveillance Camera • ANPR Camera 	Audit at any point of time. IHMCL conduct surprise inspection for validation/ verification of spares	100%	Each violation/instance shall attract the penalty of Rs. 3,00,000/-.

Note:

1. Penalties under the Service Level Agreement (SLA) shall be concurrent and cumulative, and multiple penalties may be levied simultaneously for different instances or categories of non-compliance occurring within the same assessment period.
2. In the event of any system failure, malfunction, or downtime, the recoverable damages shall be the higher of (i) the actual revenue loss incurred due to such failure or downtime, or (ii) the applicable SLA penalty as specified in the Contract.
3. SLA compliance and performance evaluation shall be carried out separately for each Gantry Location/System, and penalties shall be applied accordingly.

4. Consistent or repeated failure to meet SLA requirements for a period of three (3) consecutive months shall constitute a material breach of the Contract, and the Authority shall have the right to terminate the Contract and forfeit the Performance Bank Guarantee (PBG), without prejudice to any other rights or remedies available under the Contract. Top of Form

8. **Data Retention and Handover**

a) **Data Retention Period:**

The Successful Bidder shall ensure the retention of the following data for the specified durations throughout the Contract Agreement:

- i. Video recordings from ANPR and audit surveillance cameras shall be retained for a minimum period of thirty (30) days.
- ii. Images captured of vehicles shall be retained for a minimum period of thirty (30) days; however, in respect of eligible vehicles as notified by the Government from time to time, the details of which are transmitted to the designated Acquirer Bank for FASTag transaction and/or e-Notice generation, such images shall be retained for the entire duration of the Contract.
- iii. Transaction data and reports, as specified in Schedule-B, shall be retained for the entire duration of the Contract Agreement.

b) **Data Handover:**

Upon the expiry or termination of the Contract Agreement, the Successful Bidder shall hand over all retained transaction data, including images, videos, and reports, in a complete and organized manner to the Authority

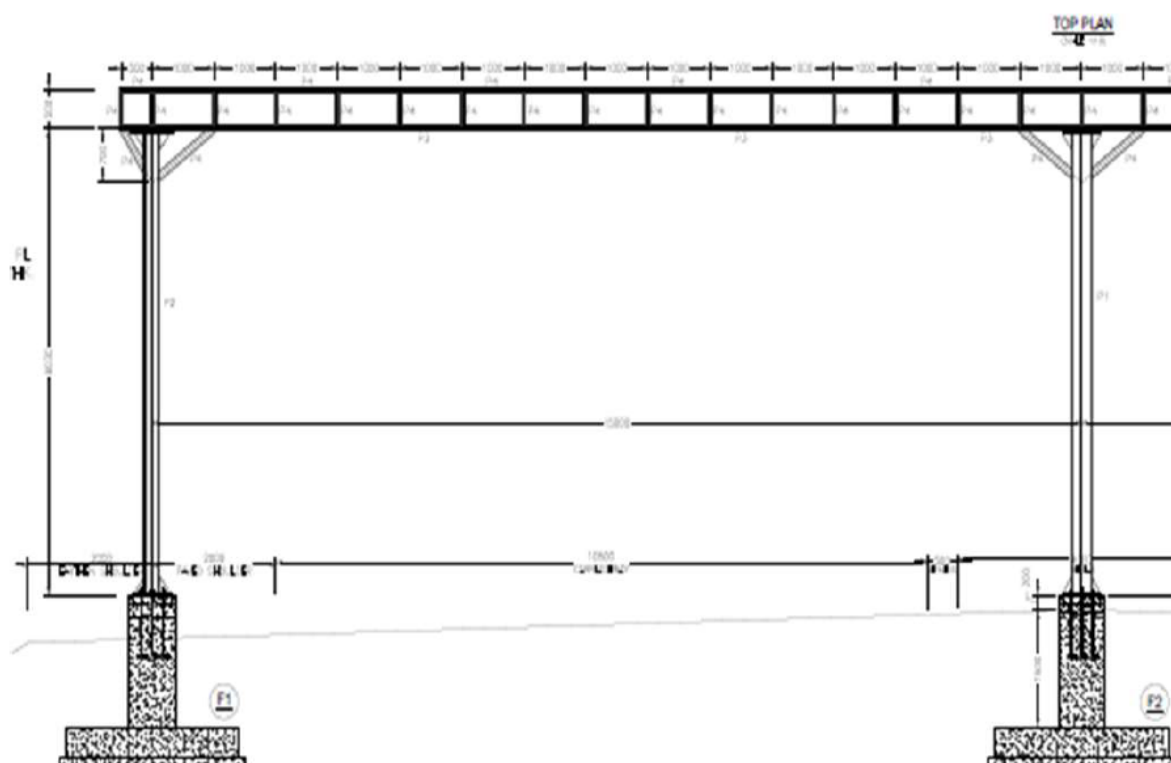
c) **Data Access and Evidence Provision:**

- a. During the contract period, the Successful Bidder shall provide requisite image evidence and video recordings to the Authority within the defined storage limits upon request.
- b. The data shall be made available promptly to assist the Authority in its operations, audits, or legal proceedings.

d) **Confidentiality and Security:**

The Successful Bidder shall ensure the confidentiality and security of the retained data, preventing unauthorized access, misuse, or loss during the retention and handover period.

9. Typical Design of the Gantry



Schedule-C

(Standards & Specification)

1 Standards and Specification of all VMECS Sub System

Note:

- a. All the specifications and compliance requirements should be either on OEM Letterhead or datasheet published by OEM on their website which will be countersigned by the Bidder and the same shall be submitted during bid submission along with Manufacturer Authorization Form (MAF) issued by respective OEMs mentioning compliance requirement as per RFP number and date.
- b. The specifications given in the tables below are bare minimum. The bidders shall design their solution with the given or better specifications to meet the scope of work and SLA mentioned in the RFP without any additional financial implication to IHMCL.
- c. The type of equipment mentioned in the RFP are bare minimum. In case the solution designed by Bidder requires additional equipment (e.g. thermal camera etc) to meet the scope of work and SLA, the same should be provided in the solution without any additional financial implication to IHMCL.

1.1 RFID Reader

#	Parameter	Minimum Specifications
1	Frequency	UHF 865-868 MHz (configurable)
2	Supported Protocols	ISO 18000 6C/63, RAIN RFID/Gen2v1
3	Conducted Power	+10 to +33 dBm (33 dBm is recommended for free flow tolling)
4	Interference Rejection	Dense Interrogator Mode
5	Antenna ports	4 ports, N-type Female, switching time < 10 ms
6	Time synchronization	NTP /PPP

#	Parameter	Minimum Specifications
7	Communication Interface	10/100 BaseT, Ethernet, CAN, RS232, USB or better
8	Upgradeable Firmware	Yes
9	Operating Temperature	-10°C to +55°C (Ambient)
10	Storage Temperature	-10°C to +55°C
11	Relative Humidity	95%, non-condensing
12	Power	24DC or compatible
13	Regulatory	BIS / FCC
14	IP Rating	IP 65
15	Display	LED (Power, Transmit, Detect, LAN)
16	GPIO	2 Inputs, 2 Outputs
17	Memory	Persistent data storage for up to 10,00,000 unique transactions
18	Network Services	DHCP, HTTP, SNTP
19	Supported Regions	FCC, EN, FCC and RoHS
20	Safety	UL, IEC, EN
21	Preferred OEMs	<p>SSI, Tag Master, Kathrein, Zebra</p> <p>Or an OEM whose RFID Reader product has been deployed in a Multilane Free Flow Tolling (Vehicle Monitoring, Enforcement And Collection System (VMECS)) System, either in India or internationally, and has been operational for a minimum of one (1) year as of the bid submission date.</p> <p>Note: The product should be complaint with Clause 4.2 of the RFP.</p>

1.2 RFID Antenna

#	Parameter	Minimum Specifications
1	Frequency Range	UHF 865-868 MHz (configurable)
2	Gain	10 dBi \pm 1 dB
3	Return Loss	Below -15 dB
4	3 dB Beam width	-
5	Polarization	Linear or Circular
6	Front to Back Ratio	Below -30 Db
7	Maximum Input Power	6 Watt
8	Impedance	50 Ω
9	Lightning Protection	DC Grounded
10	Operation temperature	-10°C to +55 °C
11	Storage temperature	-10°C to +55 °C
12	IP Rating	IP 65
13	Connector	N-Type Female or any better
14	RoHS Compliance	Yes
15	Mounting Kit	Included
16	Preferred OEMs	<p>SSI, Tag Master, Kathrein, Zebra</p> <p>Or an OEM whose RFID Antenna product has been deployed in a Multilane Free Flow Tolling (Vehicle Monitoring, Enforcement And Collection System(VMECS)) System, either in India or internationally, and has been operational for a minimum of one (1) year as of the bid submission date.</p> <p>Note: The product should be complaint with Clause 4.2 of the RFP.</p>

1.3 Audit Surveillance Camera

#	Parameter	Minimum Specification
1	IR Illumination Source	High power IR without any visual distractions to the road user
2	Lane Coverage	Sufficient number of cameras to cover all lanes including paved/earthen shoulder
3	IR Effective Range	150M (Overview)
4	Speed Limit	150 km/hr. or higher.
5	Image Sensor	1/1.8" or better
6	Effective Pixels	2048 x 1536
7	Optical Format	1/1.8" or better
8	Min. Illumination	Color: 0.1Lux / BW: 0 Lux (IR ON)
9	S/N Ratio	More than 50 db
10	Electronic Shutter	1/32000 to 1s or better
11	Frame Rate	Up to 50/60 fps (50/60 Hz)
12	Lens	12.0 ~ 22.0 mm or better as per requirement.
13	Video Compression	H.265, H.264, M-JPEG, JPEG
14	Protocols	HTTP, RTP / RTSP (Uni / Multicast), TCP / IP(v4/v6), UDP, FTP, Telnet, HTTPS, PPPoE, SNMP, PAP / CHAP / RARP / ARP / DHCP, NTP, SMTP client, uPnP & etc.
15	Images Setting	Adjustable image size, quality, and bit rate Time/Date stamp and text caption overlay Configurable brightness, contrast, saturation, sharpness, white balance, and exposure AGC / AWB / AES / BLC / WDR should be at least 120 Db
16	Standard	ONVIF (Profile S & G/T/M)
17	Operating Temperature	-10 ~ +55°C
18	Power Option	POE/POE+ /POE++/ External Power supply (Industrial Grade Power Supply)

#	Parameter	Minimum Specification
19	Certification	CE / FCC / BIS Certification, NEMA 4X / IP67 (Full metal Casing)
20	Chipset/Processor	The Camera should not have Hisilicon chipset/Processor

1.4 Automatic Number Plate Recognition Systems

#	Parameter	Minimum Specifications
1	General	The Camera should have feature and functionalities to capture number plate and video evidence from t-5 to t+5 sec of the violation at maximum speed of 150KM/Hr or higher and should also be recorded (t being the instant at which the infraction occurred). The system should have capability to detect both Retroreflective and Non-Retroreflective number plates for the vehicles during the day as well as nighttime as per the accuracy levels specified. System should be capable of generating a video in any of the standard industry formats.
2	Automatic Number Plate Recognition (ANPR) Camera	
A	Sensor Type	Progressive scan (CMOS) Day / Night Camera, Global shutter or any technology meets the SLA
B	Resolution	3 Megapixels or better
C	Speed Detection	speed Upto 150 km/hr. or higher.
D	Video Compression:	H.264, H.265
E	Normal Horizontal Field of View	Sufficient number of cameras to cover all lanes including paved/earthen shoulder
F	Typical Range	40 meters. or better
G	Operating Temp.	-10°C to +55°C
H	Auto Iris Control	Yes
I	Protection rating	NEMA 4X / IP-IP66 or Better (protection against water and dust ingress), Resistance to corrosion in harsh environments. Certification: CE / FCC / BIS Certification, NEMA 4X / IP67 (Full metal Casing)
J	Communication	10/ 100/ 1000 Base-T Ethernet interface Static IP/ DHCP support for IP address assignment & network configuration Image transfer over

#	Parameter	Minimum Specifications
		Ethernet (FTP and/ or TCP/IP) NTP (network time protocol) time synchronization
K	Data Processing	Built-in processor running Linux OS Advanced image processing functions Image buffering, Data/ Time stamp and image tags
L	MTBF	45,000 Hours
L	Power	24/48V DC or compatible
M	Shutter Speed	1 sec. to 1/100,000 sec. or better shutter speed to cater to capturing number plate and video evidence
N	Frame Rate	Upto 50/60 fps with controllable bit rate and frame rate.
O	Chipset/Processor	The Camera to be provided by the bidder should not have Hisilicon chipset/Processor.
P	Camera Housing	The camera shall be housed in a suitable housing to protect them from solar radiation, UV, dust, and rain. The field of view of the camera shall not be obstructed by the housing. Picture quality or optical performance shall not be degraded by the housing. The Housing shall have IP-67/IP-68 rating for Weather-proof with better dust & dirt protection, and NEMA 4X-rating or IK10 or higher rating for Vandal-proof. The housing shall have built-in heater and blower.
Q	Certification	CE/ FCC/ BIS Certification, NEMA 4X, IP67 (Full metal Casing),
3.	On site – Network Connectivity & Electrical Interface	
a.	Data Storage on site	The system should be equipped with appropriate storage capacity for minimum 24-hour recording, with overwriting capability. The images should be stored in tamper proof format only.
b.	Network Connectivity	Wired/GPRS based wireless technology with 3G /4G upgradable to 5G capability.
c.	The system should be capable of working in ambient temperature range of -10°C to +55°C	
d.	Lightening arrester shall be installed for safety of system (As per BIS standard IS 2309 of 1989) on the structure. SPD should be installed at junction box at each location.	
e.	The housing(s) should be capable of withstanding vandalism and harsh weather conditions and should meet IP66, IK10 standards (certified).	
4.	Video Recording	

#	Parameter	Minimum Specifications
a.	The system should be capable of continuous video recording in control center in Unified Storage for 30 days. It should be noted that at any point of time the local storage at the base station should have the data of previous 30 days.	
b.	Direct extraction through any physical device like USB, Hard disk shall be possible through Unified Storage.	
c.	The Camera shall have inbuilt SD card slot and shall be provided with at least 128 GB class 10 SD card.	

1.5 IR Illuminator

#	Parameter	Minimum Specifications
1.	Illumination Source	High power IR without any visual distractions to the road user
2.	Lane Coverage	Beam angle options Beam pattern Upto 90 or better
3.	Trigger Modes	Available
4.	Pulse with control	Available
5.	Communication Control	Full User Control on Illuminator parameters and strobe status output by USB/RS 485/RS 422/ANPR Camera system
6.	Connections	-
7.	Cable	Cable for Connector to ANPR Camera IO system is included (shielded, outdoor rated, terminated with the connector to fit with ANPR Camera system)
8.	Virtualization	Rugged, compact, corrosion-resistant enclosure IP66 (protection against water and dust ingress)
9.	Operating Temperature	-10°C to +55°C [heated enclosure]
10.	MTBF	90,000 hours
11.	Illumination Range	Minimum 50 Mtrs and should be adjustable
12.	Protection Function	Transient over peak suppression

#	Parameter	Minimum Specifications
13.	Power	Either POE+ or 24V DC or compatible
14.	Weight	Maximum of 4 kg
15.	Certifications	FCC Compliant, RoHS Compliant, CE Compliant / BIS
16.	IP Rating	IP 66 Rugged

1.6 Deleted**1.7 Deleted****1.8 Central Server (HA Mode)**

Bidder can supply the server as per the requirement to run the overall system. If required, the bidder must upgrade the server to achieve the desired outcome as per the requirement.

#	Parameter	Minimum Specifications
1.	Processor	Latest series/ generation of 64-bit x86 processor(s) with Twelve or higher Cores, Intel/ AMD Processor speed should be a minimum of 2.4 GHz. Minimum 2 processors per each physical server
2.	RAM	Minimum 64 GB or higher configured Memory per physical server
3.	Application Storage	Minimum 30TB storage available disk space. Minimum 7 days of storage should be available on local server, which shall be overwrite after every 7 days.
4.	Network interface	2 X 10 GbE LAN ports for providing Ethernet connectivity. Optional: 1 X Dual-port 16Gbps FC HBA for providing FC connectivity The required connectivity can be provided using converged FCOE ports on servers
5.	Power supply	Dual Redundant Power Supply
7.	RAID support	As per requirement/solution
8.	Operating System	Licensed version of 64-bit latest version of Linux/ Unix/Microsoft® Windows based Operating system)
9.	Form Factor	Rack mountable
10.	Virtualization	Shall support Industry standard virtualization hypervisor like Hyper- V, VMWARE and Citrix. Bidder will decide.

#	Parameter	Minimum Specifications
11.	Operating Temperature	5 degree C to 40 degree C, should be an Industrial grade model

* If the Bidder proposes a cloud-based infrastructure in place of a physical server, it shall meet or exceed the performance requirements of the specified physical infrastructure.

1.9 Storage(Data Including peripheral, transaction, video storage, NVR etc)

#	Parameter	Minimum Specifications
1.	Solution Type	IP Based/iSCSI/FC/NFS/CIFS/N2N
2.	Storage	Storage Capacity should be minimum 125 TB or more as per requirement (usable, after RAID configuration) To store all types of data (Data, Voice, Images, Video, etc) Storage system should be capable of upward scalability. <i>Note: Storage space to be finalized during the design phase.</i>
3.	Hardware Platform	Rack mounted form-factor Modular design to support controllers and disk drives expansion
4.	Controllers	At least 2 Controllers in active/active mode. The controllers / Storage nodes should be upgradable seamlessly, without any disruptions / downtime to production workflow for performance, capacity enhancement and software / firmware upgrades.
5.	RAID support	Should support various RAID levels
6.	Cache Memory	Minimum 256 GB per controller of useable cache memory across all controllers. If cache memory is provided in additional hardware for unified storage solution if applicable, then cache memory must be over and above 256 GB per controller.
7.	Redundancy and High Availability	The Storage System should be able to protect the data against single point of failure with respect to hard disks, connectivity interfaces, fans, and power supplies.
8.	Management software	All the necessary software (GUI Based) to configure and manage the storage space, RAID configuration, logical drives allocation, snapshots etc. are to be provided for the entire system proposed. Licenses for the storage management software should include disc capacity/count of the complete solution and any additional disks to be plugged in in the future, upto max capacity of the existing controller/units.

#	Parameter	Minimum Specifications
		<p>A single command console for entire storage system.</p> <p>Should also include storage performance monitoring and management software.</p> <p>Should provide the functionality of initiative-taking monitoring of Disk drive and Storage system for all disk failures.</p> <p>Should be able to take "snapshots" of the stored data to another logical drive for backup purposes</p>
9.	Data Protection	The storage array must have complete cache protection mechanism either by de-staging data to disk or providing complete cache data protection with battery backup for up to 4 hours
10.	Storage Timelines	<ol style="list-style-type: none"> 1. Successful bidder shall keep the storage of complete data (Images and videos). Images for 180 days and Videos for 30 days. 2. Successful bidder shall keep the storage of complete data (images/video recording) on storage devices, in case of any disputed/discrepancy, till the end of the contract period. 3. Any type of additional storage requirement shall be borne by the bidder.

1.10 Monitoring Workstations

#	Parameter	Minimum Specifications
1.	Processor	Latest generation 64bit X86 Quad core processor(3Ghz) (preferably Core i7 or better processors)
2.	Chipset	Latest series 64bit Chipset
3.	Motherboard	OEM Motherboard
4.	RAM	Minimum 8 GB DDR3/4/5 ECC Memory @ 1600 Mhz. Slots should be free for future upgrade. Minimum 4 DIMM slots, supporting up to 32GB ECC
5.	Graphics card	Minimum Graphics card with 2 GB video memory (non- shared)
6.	HDD	2 TB SATA-3 Hard drive @7200 rpm with Flash Cache of 64GB SSD. Provision for installing 4 more drives.
7.	Media drive	NO CD / DVD drive
8.	Network interface	10/100/1000 Mbps autosensing on board integrated RJ-45 Ethernet port.

#	Parameter	Minimum Specifications
9.	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)
10.	Ports	Minimum 6 USB ports (out of that 2 in front),
11.	Keyboard	104 keys minimum OEM keyboard
12.	Mouse	2 button optical scroll mouse (USB)
13.	Monitor	27" TFT LED monitor, Minimum 1920 x1080 resolution, 5 ms or better response time, TCO 05 (or higher) certified
14.	Certification	Energy star 5.0/BEE star certified
15.	Operating System	64-bit pre-loaded OS with recovery disc
16.	Security	BIOS controlled electro-mechanical internal chassis lock for the system.
17.	Antivirus feature	Advanced antivirus, antispymware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/project period)
18.	Power supply	SMPS; Minimum 400-watt Continuous Power Supply with Full ranging input and APFC. Power supply should be 90% efficient with EPEAT Gold certification for the system.

Note: Bidder shall be responsible to disable all ports/interfaces from all workstations installed at site.

1.11 Firewall

#	Parameter meter	Minimum Specifications
	Performance	
1.	Firewall throughput	5 Gbps or more
2.	IPS throughput	Minimum 1 Gbps
3.	NGFW throughput	Minimum 1 Gbps
4.	Threat Protection throughput	Upto 145 Mbps

#	Parameter meter	Minimum Specifications
5.	Concurrent	10,00,000 or more
6.	IPsec VPN	2000 Mbps or more
7.	SSL decryption + Threat Protection	1000
	Physical Interfaces	
8.	Storage	64 Gb SSD or more
9.	Ethernet interfaces	8 GbE copper or more, 1 SFP port
10.	I/O ports (rear)	2 x USB 2.0/USB 3.0
11.	Power	DC: 12/24V, 100-240VAC or compatible, 50-60 Hz
	Environment	
12.	Power consumption	10-50W
13.	Operating temperature	0-40°C (operating) -10 to +70°C (storage)
14.	Humidity	10%-90%, non-condensing
	Physical specifications	
15.	Mounting	Rackmount
16.	Dimension	Suitable for Network Rack
17.	Warranty	The proposed solution shall support 3 years Replacement and 24*7 TAC support.
18.	Support	The proposed solution should support Content filtering, Web Search Filtering, Intrusion Prevention, Threat Protection, Advanced Malware Protection and Active Directory Integration

1.12 Server Rack

#	Parameter	Minimum Specifications
1.	Type	<p>27 / 42 U racks mounted on the floor</p> <p>Floor Standing Server Rack – 27 / 42 U with Heavy Duty Extruded Aluminium Frame for rigidity. Top cover with FHU provision. Top & Bottom cover with cable entry gland plates. Heavy Duty Top and Bottom frame of MS. Two pairs of 19" mounting angles with 'U' marking. Depth support channels - 3 pairs with an overall weight carrying Capacity of 500Kgs.</p> <p>All racks should have mounting hardware 2 Packs, Blanking Panel.</p> <p>Stationery Shelf (2 sets per Rack)</p> <p>All racks must be lockable on all sides with unique key for each rack.</p> <p>Racks should have Rear Cable Management channels, Roof, and base cable access.</p> <p>The depth of the server rack should be 1200MM</p>
2.	Wire managers	Two vertical and four horizontals
3.	Power Distribution Units	<p>Two per rack</p> <p>Power Distribution Unit - Vertically Mounted, 32AMPS with 25 Power Outputs. (20 Power outs of IEC 320 C13 Sockets & 5 Power outs of 5/15 Amp Sockets), Electronically controlled circuits for Surge & Spike protection, LED readout for the total current being drawn from the channel, 32AMPS MCB, 5 KV AC isolated input to Ground & Output to Ground</p>
4.	Doors	<p>The racks must have steel (solid / grill / mesh) front / rear doors and side panels. Racks should NOT have glass doors / panels.</p> <p>Front and Back doors should be perforated with at least 63% or higher perforations.</p> <p>Both the front and rear doors should be designed with quick release hinges allowing for quick and easy detachment without the use of tools.</p>
5.	Fans and Fan Tray	<p>Fan 90CFM 230V AC, 4" dia (4 Nos. per Rack)</p> <p>Fan Housing Unit 4 Fan Position (Top Mounted) (1 no. per Rack) - Monitored - Thermostat based - The Fans should switch on based on the Temperature within the rack. The temperature setting should be factory settable. This unit should also include - humidity & temperature sensor</p>
6.	Metal	Aluminium extruded profile
7.	Side Panel	Detachable side panels (set of 2 per Rack)

1.13 Field Junction Box

#	Parameter	Minimum Specifications
1.	Size	Suitable size as per site requirements to house the field equipment
2.	Cabinet Material	Powder coated CRCA sheet/ Stainless steel
3.	Material Thickness	Min 1.2mm
5.	Number of Locks	Two
6.	Protection	IP 55, Junction Box design should ensure to keep the temperature within suitable operating range for equipment's and should also avoid intentional water splash and dust intake
7	Mounting	On Camera Pole / Ground mounted on concrete base
8.	Form Factor	Rack Mount/DIN Rail
9.	Other Features	Rain Canopy, Cable entry with glands and Fans/any other accessories as required for operation of equipment's within junction box.

1.14 Edge Level Switch

#	Parameter	Minimum Specifications
1.	Type	Managed Outdoor Industrial grade switch
2.	Total Ports	1) Minimum 24 port 1 Gbps PoE/PoE+ and 2 No's fiber Uplink ports of 10G. i. May require higher port density at some locations, depending upon site conditions. ii. May require fiber ports at some locations, depending upon site conditions/distances.
3.	PoE Standard	IEEE 802.3af/ IEEE 802.3at or better, 370 watts Power budget or more, Dynamic PoE allocation

#	Parameter	Minimum Specifications
4.	Protocols	1) IPV4, IPV6 2) Support 802.1Q VLAN 3) DHCP support 4) IGMP 5) SNMP Management 6) Should support Loop protection and Loop detection. 7) Should support Ring protection. 8) End point Authentication 9) Should support NTP
5.	Access Control	1) Support port security 2) Support 802.1x (Port based network access control). 3) Support for MAC filtering
6.	PoE Power per port	Sufficient to operate the CCTV cameras/edge devices connected
7.	Enclosure Rating	IP 30 or equivalent Industrial Grade Rating (to be housed in Junction box)
8.	Operating Temperature	0 -55 C or better Industrial Grade Rating
9.	Multicast support	IGMP Snooping V1, V2, V3 MLD Snooping V1, V2
10.	Management	Switch needs to have RS-232/USB/RJ45 console port for management via a console terminal or PC. Web GUI NTP Syslog for log capturing. SNMP V1, V2, V3
11.	Compliance	UL/EN/IEC or equivalent
12	Power Supply	Inbuilt Dual Power Supply In built Dual Fan
13	Switching Capacity	30 Gbps or better

1.15 Deleted

1.16 Enterprise Management System

- 1) To ensure that Vehicle Monitoring, Enforcement and Collection System (VMECS) are delivered at the performance level envisaged, it is important that an effective monitoring and management system be put in Place. It is thus proposed that a proven Enterprise Management System (EMS) is proposed by the bidder for efficient management of the system, reporting, SLA monitoring and resolution of issues. Various key components of the EMS to be implemented as part of this engagement are.
 - I. Network Monitoring System
 - II. Server Monitoring System
 - III. Helpdesk System
- 2) The solution should provide a unified web-based console which allows role-based access to the users.
- 3) The Proposed EMS shall be capable to monitor all SLA defined in the RFP.
- 4) The Proposed EMS shall be able to provide reports in pdf, excel and CSV file format.

1.17 Video Wall & Controller

#	Parameter	Minimum Specifications
1.	Technology	Solid state LED illumination technology or LED based Technology or equivalent
2.	Display Unit	The Visual Display Unit / Rear Projection Module
3.	Screen Size	4.5m x 2m display
4.	Resolution	Full high definition (1920X1080)
5.	Brightness	Uniformity of 85%
6.	Contrast Ratio	Min. 1400 : 1
7.	Wall Uptime	Min. 60,000 hours of rated life (Expected to be operational 24X7)
8.	Viewing Angle	180 degree viewing angle
9.	Screen to Screen gap	The inter screen gap should be <= 1 mm
10.	Other Features	RS232 control (with loop-through) On Screen Display (OSD) IR remote control

#	Parameter	Minimum Specifications
		flicker free image on the Large Screen Graphics Wall
11.	Input	IP Based
12.	Same OEM for Controller and Display	Display Controller and management software shall be from the same OEM. The number of outputs shall be capable to drive number of cubes to achieve the resolution.

1.18 Uninterruptible Power Supply Unit (Central Control Centre & Gantry)

- Online UPS shall be capable of maintaining an uninterrupted power supply to the UPS loads for a sustained period of at least 8 hours under full load conditions from a fully charged battery.
- It shall also be capable of continuously supplying power to the system under an intermittent interruption cycle.
- The UPS shall be capable of operating at input voltages of 210/380Volts \pm 10% and 50 Hz \pm 2.5 Hz. The Service Provider shall issue a certificate to the IHMCL/NHA that the equipment has been tested for load capacity and insulation at the applicable rated voltages and loads. IHMCL/NHA shall reserve the right to witness such tests or nominate a representative to witness such tests.
- UPS along with its battery shall be compact and shall be housed in a mountable enclosure with suitable ventilation arrangements.
- Specification for Central Control Centre and Gantry UPS (Min 10 KVA or 06 KVA)**

Parameter	Minimum Specification
UPS with Battery	Online
Rating	As per power requirement (125% of connected load)
Backup	8 Hours
Input Voltage	155-305 VAC
Input Frequency	50H z
Output Voltage	230 VAC
Output Waveform	Sine Wave

- Specification for Central Control Centre UPS (Min 06 KVA or above as per site conditions)**

2. Functional Requirements of all VMECS Sub System

2.1 RFID Reader

The primary function of automatic identification technology is to identify vehicles passing through the road to enable collection of applicable charges via FASTag. This is achieved using RFID readers and antenna installed on VMECS gantries.

Operational Overview:

1. FASTag Detection:

- a) RFID readers emit signals to scan and read the FASTag affixed to vehicles.
- b) The information from the detected FASTag is processed for initiating toll payments.

2. Installation and Coverage:

- a) RFID readers are mounted on Vehicle Monitoring, Enforcement and Collection System(VMECS) gantries or lanes for optimal coverage.
- b) A single RFID reader can effectively cover up to two lanes.

3. Data Transmission:

- a) Identification data from the FASTag is transmitted via radio frequency to the RFID reader.
 - b) The RFID reader forwards the data to the controller unit through cables for further processing transactions.
- 4. The RFID system shall have an anti-collision feature, enabling it to read multiple FASTags simultaneously without errors or conflicts.
 - 5. The RFID Reader shall authenticate and process the information from FASTags efficiently and securely.
 - 6. Each RFID Reader shall support a minimum of 4 radio channels to connect up to 4 antennas. No more than 4 antennas shall be connected to a single RFID Reader. Channel switching must occur within 6 milliseconds or faster to maintain operational efficiency.
 - 7. To ensure accuracy, one or multiple RFID Readers may be deployed to manage a single lane effectively.
 - 8. RFID channel switching customization shall be controlled at the Control Center level via the Vehicle Monitoring, Enforcement and Collection System(VMECS) application.
 - 9. Deleted
 - 10. All tags detected on the gantry must be stored in the reader's internal memory before being transmitted over the network.
 - 11. RFID Reader housing shall be rugged, tamper-proof, and designed to operate under adverse weather conditions.
 - 12. The reader must support robust data security measures, including anti-copying and anti-forgery functionalities.

13. It must withstand harsh climatic conditions while ensuring stable and consistent 24x7 operation.

2.2 RFID Antenna

RFID Antenna refers to the conductive element that sends and receives FASTag data. The minimum height clearance for the RFID antenna should be based on Indian regulations regarding road construction. The RFID antenna should be designed for high-speed vehicle detection system .

2.3 ANPR and Application

The Automatic Number Plate Recognition (ANPR) camera system is designed to automatically read vehicle license plates using optical character recognition technology. This versatile system is used for surveillance in various applications.

- i. Integration: ANPR technology should be embedded within security cameras (also known as ANPR Cameras) to ensure accurate readings regardless of the shape and color of the license plates.
- ii. Lighting Conditions: The ANPR cameras must be capable of reading license plates under varied lighting conditions, including day, night, and adverse weather conditions.
- iii. High-resolution ANPR Camera for multi-lane coverage (3MP or better, CMOS), Global shutter.
- iv. High frame rate (50/60 fps) for traffic bursts and image sequence of speeding vehicles

#	System Parameter
General	
1.	ANPR system automatically captures the license plates of any vehicle(s) in the field of view (FOV) of a camera and stores them in database, so that details of the vehicles are available at any later point in time along with related video footage. It's OCR engine then converts captured license plate number into editable text, for ease of validation of vehicle details. OCR engines need to be designed and customized as per the multiple number plate and various Indian scripts apart from standard HSRP number plates
2.	If there is more than one vehicle in the camera FOV, then all of them are independently processed and their license plates are recognized irrespective of the type of vehicle like car, bus, truck, auto rickshaw, motorcycle, etc.
3.	Non-standard number plates shall be subject to audit and manual validation. The ANPR solution is expected to leverage AI/ML capabilities to adapt and improve recognition accuracy over time, thereby enhancing future readings and minimizing manual intervention.
4.	The vehicle image produced by the system should be wide enough to give the exact position of the vehicles with respect to the virtually marked point.
5.	The system is capable to process and read number plate of vehicles with speed Upto 150km/hr. or higher.

#	System Parameter
6.	The system can capture vehicle color and label them as per predefined list of configured system colors. System allows option to search combination if vehicle color with vehicle registration number plate.
7.	The Evidence and ANPR camera should continuously record all footage in its field of view to be stored at the local base station. This should be extractable onto a portable device as and when required. The network should have the capability to provide the real time feed of the evidence camera to the CC at the best resolution possible on the available network.
8.	The system shall be equipped with IR Illuminator in-built as well as external to ensure clear images including illumination of the Number Plate under low light conditions and nighttime.
9.	The system support reading accuracy Upto 97% of standard number plate vehicles number plates which are visible by human eyes.
11.	The system support API for integration with 3rd parties' application.
12.	Recording & display information archive medium
12 (a)	<p>The recording and display of information should be detailed on the snapshot of the infracting vehicle as follows:</p> <ul style="list-style-type: none"> a) Computer generated unique ID. b) Date (DD/MM/YYYY) c) Time (HH:MM: SS) d) Equipment ID e) Location ID f) Lane Number of the vehicle g) Time Stamp of RFID Reader at the time VRN captured by ANPR h) Registration Number of vehicle

#	System Parameter
13	<p>The ANPR application should be a tightly coupled system with the VMECS software deployed on the servers. The ANPR application should only be accessible through the VMECS Software.</p> <ul style="list-style-type: none"> a) The system should have secure access mechanism for validation of authorized personnel. b) Deletion or addition and transfer of data should only be permitted to authorized users. c) The system should have the capability to transfer the data to CC (Control Centre) through proper encryption in real time and batch mode for verification of the processing of E-Notice as defined in the e-Notice module. d) If connectivity to server is not established due to network/connectivity failures, then all data shall be stored on site on the Edge system / LPU and will be transferred once the connectivity is re-established automatically. There shall also be a facility of physical transfer of data on portable device whenever required. There should be a provision to store minimum one week of data at each site on a 24x7 basis.
14	Mounting structure
a.	<ul style="list-style-type: none"> a) It will be Mounted on the Gantry. b) The ANPR camera shall be placed in such a way that it should be able to view the edge shoulders as well as the service lanes to capture the vehicle license plates and process the same for deduction of applicable charges from eligible vehicles as notified by government.

2.4 IR Illuminator

The illuminator should be equipped with ANPR Camera will be able to provide complete coverage for image capture. Under Vehicle Monitoring, Enforcement and Collection System (VMECS), the IR Illuminator should also be able to handle different driving behavior in Vehicle Monitoring, Enforcement and Collection System (VMECS) environment including lane switching, high speed, tailgating, low speed, etc. The light given off by the illuminator should be set to minimize potential distraction to motorists.

- a) High power, compact and lightweight
- b) Up to 75 Hz for traffic bursts and image sequences
- c) Infrared (invisible)
- d) Rugged IP66 enclosure
- e) Long life, low total cost of ownership

2.5 Audit Surveillance Camera

- a) Audit Surveillance Cameras shall be installed on each VMECS gantry. The cameras shall be mounted at an appropriate height to ensure full coverage of all lanes, including the shoulder lane,

on their respective sides. The setup must enable clear capture of every vehicle passing through the gantry.

- b) Adequate illumination, such as IR flashers, shall be installed to enhance the accuracy of the camera during nighttime operations. The camera's image quality must be clear enough to count and vehicles with color based, color code and their types passing under the gantry/canopy. It shall also capture video with clear number plates within a range of 30 meters.
- c) The Audit Surveillance Camera shall be positioned to ensure visibility of the edge shoulders as well as service lanes. This configuration must enable the capture of vehicle details for further processing by the Vehicle Monitoring, Enforcement and Collection System(VMECS) server to meet functional requirements.
- d) If connectivity to server is not established due to network/connectivity failures, then all data shall be stored on site on the Edge system / LPU and will be transferred once the connectivity is re-established automatically. There shall also be a facility of physical transfer of data on portable device whenever required. There should be a provision to store minimum one week of data at each site on a 24x7 basis.
- e) The proposed solution must be highly customizable to accommodate IHMCL's specific requirements and evolving needs.

2.6 Deleted

2.7 Firewall

The firewall must provide unparalleled visibility into risky users, unknown or unwanted applications, advanced threats, suspicious payloads, and encrypted traffic. It shall ensure robust protection of the network from ransomware, advanced threats, phishing emails, and other cybersecurity risks, with the following minimum functionalities:

- i. Firewall Block Access to Unapproved Websites, address, URLs
- ii. Protect the Network, Data, and machine from Malicious Code
- iii. Firewalls shall have Control of Internet content connected to the gantry equipment.
- iv. Shall have Limits set options on Bandwidth Usage
- v. Shall Secure Network when using remote sessions or Remote Monitoring from Anywhere
- vi. Shall Work 24/7, Monitoring the Network and Protecting It from Harmful codes, sites, malware, ransomware attacks.
- vii. The firewall must be capable of managing multiple firewalls from different vendors, both virtual and physical, providing seamless integration and centralized management.

2.8 Communication and Time Synchronization

The Communication and Time Synchronization of VMECS system shall be as per below requirements:

- 1) **Communication Interface:** The Equipment shall support Ethernet interface to communicate with the Vehicle Monitoring, Enforcement and Collection System(VMECS) server.

- 2) **Power Saving:** Appropriate energy saving mechanisms and approaches.
- 3) **Real Time Clock:** The system should maintain a real-time clock of the system and sync with all the field equipment. The real time clock shall be based on Network Time Protocol (NTP) or Simple Network Time Protocol (SNTP). This shall maintain the transaction time and become an integral part of the system.

2.9 VMECS Application Software

- 1) The VMECS application shall be designed and deployed in a multi-tier architecture comprising two primary levels, namely the Gantry Level System and the Central Command and Control Centre System. All VMECS equipment installed at each gantry shall be integrated with the Gantry Level System and the Central Command and Control Centre System, the VMECS software shall be deployed at both system to ensure seamless data processing, monitoring, and enforcement operations.
- 2) The Vehicle Monitoring, Enforcement and Collection System (VMECS) Application Software shall function as the core platform responsible for detection of vehicles passing through the gantries and subsequent validation of such vehicles through Government databases integrated via the National Informatics Centre to determine whether the vehicle is eligible for deduction of charges as notified by the Government. The system shall also be responsible for processing payments and collection of notified charges from eligible vehicles, as well as any enforcement.
- 3) The system shall detect vehicles in real time using RFID, ANPR cameras & others equipment, and transmit captured vehicle registration details through API-based integration with the National Informatics Centre for validation and retrieval of vehicle attributes required for enforcement and payment decisions. The application shall automatically identify vehicle class, fuel type, gross vehicle weight, fitness validity, insurance status, and emission compliance, determine direction of travel and gantry crossing confirmation, distinguish vehicle categories without manual intervention, flag vehicles with missing FASTag, tampered number plates, or unreadable registration numbers, and generate exception reports for enforcement authorities. Only those vehicles that are successfully validated through the National Informatics Centre shall be considered for further payment processing, subject to their detection as eligible vehicles under the notified Government rules.
- 4) The VMECS application shall compute applicable user charges based on validated vehicle attributes and notified Government rules, with all fare logic and rule engines applied centrally to determine the eligibility of vehicles for charge deduction. The system shall transmit transaction data to the Acquirer Bank for deduction of charges from eligible vehicles with valid FASTag, or for generation of e-notices in case of eligible vehicles with invalid or no FASTag, through the National Electronic Toll Collection (NETC) ecosystem operated by the National Payments Corporation of India. The VMECS software shall compute applicable charges locally based on data received from VAHAN/SAARTHI.
- 5) The The Vehicle Monitoring, Enforcement and Collection System (VMECS) application shall track vehicle movement in real time to determine vehicle counts and capture Vehicle Registration Numbers (VRNs) using RFID readers, ANPR cameras, and audit cameras.
- 6) Vehicle Monitoring, Enforcement and Collection System (VMECS) application shall take the decision of sending the data to VAHAN and SAARTHO, based on the confidence of the RFID and ANPR camera read accuracy.
- 7) Transactions recorded at the gantry shall initially be stored in the local VMECS application. The data shall subsequently be transmitted to the core VMECS application hosted at the Control Centre or central server for processing based on the transaction status. This shall ensure that all transaction records received from the gantries are centralized and processed by the core system.

- 8) The Vehicle Monitoring, Enforcement and Collection System (VMECS) core application manages the entire interface of the VMECS and receives both transaction data and heartbeat signals from the gantry equipment via the gantry application.
- 9) The Bidder shall establish a secure, tamper-proof device registry for all deployed hardware and software, ensuring checksum validation, and logs for all configurations, updates, and modifications.
- 10) The Bidder shall set up a Role-Based Access Control system to manage who access field devices, application systems, ensuring all access is logged.
- 11) The Bidder shall ensure all field devices send telemetry data regularly - in a standard format with details like device ID, time, CPU and memory use, firmware version, etc.
- 12) The Bidder shall upgrade all subsystems (devices, applications) - preferably remotely through a secure process without any system downtime.
- 13) The Bidder shall build or present a roadmap for application systems using container-based microservices and open-standard CI/CD deployments.
- 14) The Bidder shall design and maintain a multi-location database with automatic failover and replication, implement API retry for NIC, VAHAN, and NPCI integrations, ensure continuous heartbeat monitoring, and share quarterly failover reports with IHMCL.
- 15) The Bidder shall ensure full cybersecurity compliance, including endpoint protection, TLS encryption, and annual VAPT by a CERT-In-approved agency.
- 16) To ensure long-term interoperability across deployments, the Bidder shall ensure all system APIs follow open standards, remain vendor-neutral, and integrate seamlessly with third-party platforms.

2.10 Web-Portal:

The Bidder shall design, develop, deploy, and maintain a secure, centralized, and user-friendly web-portal for monitoring, enforcement, analytics, and reporting of the Vehicle Monitoring, Enforcement and Collection System (VMECS). The portal shall be accessible to authorized users of **IHMCL**, **NHAI**, and other designated agencies through a secure web-based login with role-based access control. The portal shall support real-time visualization, historical analytics, configurable dashboards, automated alerts, and downloadable MIS reports to support the three core VMECS functions — detection & validation, payment processing, and enforcement.

The web-portal shall include, but not be limited to, the following modules and features:

1) Central Dashboard and Monitoring

The portal shall provide a configurable real-time dashboard displaying:

- a. Health status of all gantries, sensors, cameras, radar, and field devices
- b. Network connectivity and data synchronization status between gantries and control centre
- c. Real-time traffic flow and classified vehicle counts
- d. Real-time count of validated vehicles, chargeable vehicles, and enforcement cases
- e. Status of generated e-Notices (pending, validated, approved, rejected, paid) as per data received from Acquirer bank.

- f. Alerts for device failure, communication loss, abnormal traffic patterns, or system anomalies

2) Validation & Transaction Monitoring Module

The portal shall provide visibility into vehicle detection and validation workflows, including:

- a. Status of vehicle validation requests processed through National Informatics Centre systems (VAHAN/SARATHI)
- b. Classification of vehicles as eligible, non-eligible, or exception cases
- c. Tracking of vehicles without FASTag, unreadable plates, or incomplete data
- d. Monitoring of transaction lifecycle (captured, validated, charge computed, transmitted, settled)

3) E-Notice(As per data shared by Acquirer Bank)

- a. e-Notice Module functionality within the web portal.
- b. Role-based access management to ensure only authorized personnel can access the e-Notice Module.
- c. Features to validate the generated e-Notices as below:
 - i. **Accepted:** Automatic integration with NIC e-Notice and NETC systems for processing.
 - ii. **Rejected:** Mandatory comments required for rejection reasons (e.g., VRN not visible etc.).
 - iii. **Exempted:** Mandatory comments for exemption (e.g., testing vehicle, convoy).
- d. Status monitoring for issued e-Notices (Accepted, Rejected, Exempted) on the main dashboard.
- e. Tracking and reporting of repetitive exempted or rejected cases over various time periods (daily, weekly, monthly).

4) Payment, Reconciliation and Settlement Module

The portal shall support monitoring of payment processing based on data received from Acquirer Bank, including:

- a. Eligible vehicle transactions processed for charge deduction
- b. Successful, failed, pending, and disputed transactions
- c. Settlement and reconciliation summaries
- d. Exception handling and adjustment tracking
- e. Downloadable financial and audit reports

5) Reports and Analytics Module

The portal shall allow generation of customizable reports by date, gantry, vehicle class, or transaction type, including:

- a. Device uptime and SLA compliance reports

- b. Traffic volume.
- c. Validated vs chargeable vehicle statistics
- d. Revenue, settlement, and reconciliation reports
- e. Enforcement statistics and repeat violation analysis
- f. Audit trail logs of all system and user activities

6) Security, Audit and System Health Monitoring

The portal shall:

- a. Maintain complete audit logs of user access, approvals, and configuration changes
- b. Provide cybersecurity monitoring dashboards including login anomalies and system alerts
- c. Display system health indicators, telemetry summaries, and failover status
- d. Support encrypted access, secure session management, and periodic security reporting

7) SLA and Performance Monitoring

The portal shall include a centralized SLA monitoring dashboard displaying:

- a. Device uptime and response times
- b. Transaction processing latency
- c. Validation turnaround times
- d. Network performance indicators
- e. Overall system availability and service compliance

2.11 Minimum Bill of Quantity (BOQ):

1. Vehicle Monitoring, Enforcement And Collection System(VMECS) through Gantry for each fee plaza:

BOQ				
	Development Phase			
S. No.	Description of work	Unit	Qty	Remarks
Vehicle Monitoring, Enforcement and Collection System(VMECS) Through Gantry				
A	Minimum Field Equipment			
1.	RFID Antenna	Nos	1	Per lane/Gantry
2.	RFID Reader	Nos	1	Per lane/Gantry
3.	ANPR Camera (Including Housing and Mounting)	Nos	1	Per lane/Gantry
4.	Audit Surveillance Camera including night vision and Mounting	Nos	1	Per Gantry
5.	IR Illuminator	Nos	1	Per lane/Gantry
6.	Switch (Layer 3) – 24 Port (HA Mode)	Nos	1	Per Gantry
7.	LPU with all network equipment	Nos	1	Per lane/Gantry
8.	Gantry (As per design provided in schedule-B)	Nos	1	Per Location
9.	Data Storage Including peripheral, transaction, video storage, NVR ETC (01 per Gantry)	Nos	1	Per lane/Gantry
10	06 KVA Online UPS	Nos	2	Per Gantry
11	Redundant Internet Connectivity (100 Mbps)	Nos	2	Per Gantry
12	Cabling, Networking and Integration with Control Room(Lumpsum per Gantry)	Nos	1	Per Gantry
13	VMECS Software, along with licenses and EMS for per Gantry	LS	1	Per Gantry
14	Firewall with all licenses	Nos	1	Per Gantry
B	Minimum Central Command Control Centre Equipment			
15	Central Server/Cloud Server (HA Mode)	No	2	Per Central CC

BOQ				
	Development Phase			
S. No.	Description of work	Unit	Qty	Remarks
16	Server Rack (42U) if physical server	No	1	Per Central CC
17	Workstation with Display 27"	No	4	Per Central CC
18	Video Wall	No	1	Per Central CC
19	Network Colour Printer	No	1	Per Central CC
20	Redundant Internet Connectivity (1Gbps)	No	2	MPLS/Leased Line
21	Firewall with all licenses	No	1	Per Central CC
22	Furniture, Interior and MEP work	No	1	CC
23	Cabling, Networking and Integration with Gantries(Lumpsum)	LS	1	CC
24	VMECS Software, along with licenses for Central Command Control Centre including the central web-portal	No	1	CC
25	10 KVA Online UPS	No	1	CC
C	VMECS Software (Field & Control Centre)			
1.	VMECS portal and Dashboard and two license	-	Complete in respect	Perpetual Licenses /Open source
2.	ANPR Application Per Channel	-	01 per ANPR Camera	Perpetual Licenses /Open source
3.	Video Management Software Base License	-	1	Perpetual Licenses /Open source
4.	Video Management Software Per Channel license	-	01 per Camera	Perpetual Licenses /Open source
5.	RFID Reader and Antenna Application	-	1	Perpetual Licenses /Open source
6.	Video Analytics (Camera/ Application)	-	01 per Camera	Perpetual Licenses /Open source
7.	Enterprise Management Software (EMS)	-	Lumps	1 (Master License +

BOQ				
	Development Phase			
S. No.	Description of work	Unit	Qty	Remarks
			um	Nodes=60)
8.	Integration with VAHAN	-	Lumps um	
9.	Operating System	-	Lumps um	Licensed version
10.	Any additional	-	Lumps um	

2.12 Minimum Manpower Requirements & Qualifications:

- a) Manpower Requirement: The Bidder shall deploy personnel as specified below. The actual number of personnel shall be determined based on project requirements, ensuring that the minimum numbers indicated below are maintained.

#	Operation & Maintenance (O&M) Manpower	Location	Minimum Manpower requirement
1.	Project Manager	Central Control Centre	1
2.	System Maintenance Engineer	Site	1 in each shift per vehicle + 1 reliever
3.	Auditor/Transaction Validator	Central Control Centre	7 in each shift + 2 reliever

b) Manpower Requirement & Qualification

#	Manpower Designation	Minimum Qualifications
1.	Project Manager (Dedicated On-site)	Minimum Education: B.E/B.Tech/MCA along with MBA is required.
		Total experience: 12 years and above.
		Languages known (Read, Write and Speak): Hindi and English
		Prior project management experience of at least 10 years of handling ETC based Toll Plaza projects.
		Excellent writing, communication, time management and multi-tasking skills
		Project Experience of managing components

2.	System Maintenance Engineer	B. E/ B. Tech/ MCA/ MTech with minimum five years of experience in Systems/Software Quality Assurance
		1 Engineer for each shift (8Hrs) per vehicle and 1 reliever.
3.	CC Auditor/ Transaction Validator	Graduate in any discipline with at least 2 years of relevant experience in citizen contact service.
		Minimum 4 auditors/Validator per shift(8hrs) per Vehicle Monitoring, Enforcement And Collection System(VMECS) plaza and 1 reliever. Number of auditors may be dependent on the volume of traffic which is to be decided by the bidder.

Please note:

The provided BoQ is indicative and the Successful Bidder shall be solely responsible for proposing a solution that meets all the features, functions, and performance criteria outlined in this RFP. The Successful Bidder will be responsible for the complete design, development, and implementation of the required Vehicle Monitoring, Enforcement And Collection System(VMECS) solution, along.