

Request for Proposal (RFP) For Selection of Vendor for Design, Develop, Supply, Test, Install, Commission, Configure, System Integration, and Operations and Maintenance of Proprietary Toll Management System (PTMS)

RFP Reference No.: IHMCL/PTMS/2019/01



**Indian Highways Management Company Limited (IHMCL)
Sector-19, Dwarka, New Delhi-110075**

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The issue of this 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 document comprises of the following parts:

List of Abbreviations

ALB	: Automatic Lane Exit Barrier
ASB	: Amber Siren Beacon
AVC	: Automatic Vehicle Classifier
CCTV	: Closed Circuit Television
CLSD	: Canopy Lane Status Display
CSC	: Contactless Smart Card
CSCRW	: Contactless Smart Card Reader/Writer
DDR	: Dual Data Rate
NVR	: Network Video Recorder
ECC	: Error Correcting Code
ETC	: Electronic Toll Collection
FSW	: Emergency Footswitch
GBIC	: Gigabit Interface Converter
HP&MC	: High Personage & Military Convoy
IHMCL	: Indian Highways Management Company Limited
ISCU	: Intercom Slave Communication Unit
ITB	: Instructions to Bidders
IUID	: Integrated User Information display
LC	: Lane Computer-Industrial PC
LGD	: Load Gauge Detector
LoA	: Letter of Award
LSDU	: Lane Status Display Unit
MBC	: Manual Booth Controller
MCBF	: Mean Cycle Between Failures
MCU	: Master Communication Unit
MLB	: Manual Lane Entry Barrier
MTBF	: Mean Time Between Failures
MTTR	: Mean Time to Repair
NHAI	: National Highways Authority of India
OHLS	: Over Head Lane Sign

PDB	: Power Distribution Board
POS	: Point of Sales
RAID	: Redundant Array of Inexpensive Disks
RFID	: Radio Frequency Identification
RFP	: Request for Proposal
RPR	: Receipt Printer
SFTP	: Secure File Transfer Protocol
Staff Id	: Staff Identification
T&G	: Touch & Go
FCC	: FES Control Centre
TCD	: Toll Collector Display
TCK	: Toll Collector Keyboard
TCT	: Toll Collector's Terminal
TL	: Traffic Light
TLC	: Toll Lane Controller
PTMS	: Proprietary Toll Management System
TOD	: Tour of Duty
UPS	: Uninterrupted Power Supply

PART - I: LETTER OF INVITATION PART - II: SCHEDULE OF THE TENDER (Key Dates)

PART - III: INSTRUCTIONS TO BIDDERS

PART - IV: SCOPE OF WORK/FUNCTIONAL REQUIREMENTS SPECIFICATIONS (FRS)

PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS

PART - VI: CONDITIONS OF CONTRACT

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LIST OF ABBREVIATIONS

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TOD	: Tour of Duty
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PART - I: LETTER OF INVITATION

1. INTRODUCTION

The current toll collection at toll plazas relies on a multitude of systems developed by various System Integrators. However, this situation leads to issues for all stakeholders - Road Users, Toll Plaza concessionaire(s), and IHMCL. Road Users often face delays at toll plazas due to a sub-optimal design of IT systems and equipment. On the other hand, the concessionaire also has to pay up high charges for maintenance of these IT system and face issues with delayed system upgrades. These multiple systems also increase the time and effort of IHMCL Associates in capturing details regarding overall toll collected across the country, or about issues faced at any Toll Plaza.

To resolve these issues, it IHMCL now plans to develop and to maintain a unified toll management system, Proprietary Toll Management System (“PTMS”), to handle the cash collection as well as Electronic Toll Collection (ETC) system across various plazas in the country. The PTMS software would have features to integrate various equipment - boom barriers, WIMs, AVCC, etc. It would also act as a data acquisition channel for various electronic toll collection systems.

Towards same, IHMCL is now looking to engage a Vendor to develop and to maintain the aforementioned software for a period as specified in the subsequent sections. The subsequent sections also capture details pertaining to the requirements of the aforementioned software, and other development/contractual/payment related terms associated with the same.

1.1 NOTICE INVITING APPLICATION

- a) Bids are invited by the Indian Highways Management Company Limited (IHMCL) for the following:

Name of the Work	Document Fee(non-refundable)	EMD (Earnest Money Deposit)	Closing date and time
Request for Proposal (RFP) For Selection of Vendor for Design, Develop, Supply, Test, Install, Commission, Configure, System Integration, and Operations and Maintenance of Proprietary Toll Management System (PTMS)	INR 5,000/- (INR Five Thousand) Non-refundable	INR 26,00,000/- (INR Twenty Six Lakhs)	3 rd July 2019 (Up to 15:00 Hrs IST)

- b) All clarifications/ corrigenda will be published only on the e-procurement portal <http://etenders.gov.in>, IHMCL website www.ihmcl.com.
- c) The complete Bidding Documents can be viewed / downloaded from e-procurement portal <http://etenders.gov.in> .The Bids shall be liable for summarily rejection unless accompanied by the requisite EMD and bid document fee as indicated above. IHMCL shall not be responsible for any postal delay. Bids submitted after the closing date/time shall be summarily rejected.
- d) The eligibility criteria of the agency/service provider are elaborated in subsequent sections/pages.

1.2 DEFINITIONS

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

"Abandon" means the cessation of the System Development and/or Operation and Maintenance of the IT System in such a manner that indicates an intention to cease System Development and/or Operation and Maintenance of the Project on a permanent basis, other than cessation arising out of Force Majeure.

"Affiliate" means a person, corporation or any entity controlled by or controlling the Vendor or associated with the Vendor under common ownership and Control.

"Application" or "System" refers to software that shall be developed and deployed to meet the requirements of IHMCL as specified in the PART - IV: SCOPE OF WORK/FUNCTIONAL REQUIREMENTS SPECIFICATIONS (FRS) section of this Document.

"Applicable Law" means the laws, rules or regulations and any other instruments, having the force of law in Republic of India, as in force from time to time.

"Application Maintenance" shall refer to ensuring that the Application is in line with the current business requirements of the IHMCL.

"Authorized User" means any individual (including Personnel of any member of the IHMCL, Vendor or any Other Supplier) who is authorized, in accordance with the Grantor's policies and standards from time to time and whether on an individual or on a standing basis, to access or use the IT System.

"Authority / Client / Employer / Purchaser/Grantor" shall mean the Indian Highways Management Company Limited (IHMCL).

"Bidder" means a firm or JV or Consortium which participates in the tender and submits its proposal in response to this RFP.

"Bid Security" means the security submitted by the Vendor to the Grantor under the ITB.

"Boom Barrier" refers to the bar, or poll, or similar equipment, that is installed at Toll Plazas to prevent the movement of a vehicles, or vehicles, till the vehicle(s) has paid the requisite amount to the Toll Operator.

"Business Continuity and Disaster Recovery Plan" means the business continuity and disaster recovery plan which documents:

- a. the criteria and procedures for declaring a threat to the Vendor's ability to provide the Project, IT System and O&M to the Grantor in an uninterrupted manner;
- b. the procedures and activities the Vendor maintains and will follow to ensure the availability of the Project, , IT System and O&M and the reduction of risks to an acceptable level (including such matters as regular technology reviews, reviews

of applicable health and safety processes, security protocols and succession planning); and

- c. the recovery, back-up and response actions the Vendor must take to continue meeting its obligations under this Contract if a Disaster or significant event which is prejudicial to the Vendor's ability to perform the Project, IT System and O&M occurs.

"Business Day" means a day (other than a Saturday or Sunday) when IHMCL HQ is open for business.

"Central Office" means the Project Office described as the IHMCL HEAD Quarter in New Delhi (Description of Project Offices).

"Change Request" means a request to alter, update and/or discontinue the access rights of any Authorized User or any change proposed in the Software and/or IT System Hardware during the O&M Period.

"Coercive Practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, or exercising undue influence upon any person or property in order to influence any person's participation in the Bidding Process, or affect the execution of this Contract.

"Commissioning and Provisional Acceptance Plan" means a detailed plan delineating the actions to be undertaken by the Parties towards Provisional Acceptance of the System Development.

"Commissioning and Provisional Acceptance Tests" means the tests required to be undertaken to prove the technical, safety and operational integrity of the System Development and the achievement of Provisional Acceptance in respect of the System Development.

"Common Good" means for the benefit or in the interest of both the Grantor and the Vendor.

"Completed System Development" means System Development in respect of which a Final Acceptance Certificate has been issued.

"Concessionaire", or "Vendor" has the meaning given to it in the recitals of this Contract.

"Concession Period" means the period set out in Section related to Concession Period.

"Confidential Information" means any information (whether or not in material form and whether or not disclosed before or after the execution date of this Contract) of whatever kind disclosed or revealed by one Party (the "Disclosing Party") to the other Party (the "Receiving Party") under or in relation to this Contract, including information about the Disclosing Party's or a third party's business, operations, dealings, transactions, contracts,

customers, commercial or financial arrangements, products, marketing strategies and future development plans, that:

- a. is by its nature confidential;
- b. is designated by the Disclosing Party as confidential; or
- c. the Receiving Party knows or reasonably ought to know is confidential,

including (where the Grantor are the Disclosing Party) the Grantor's Intellectual Property Rights to the extent that it has not already been publicly disclosed, but does not include information that:

- a. is published or has otherwise entered the public domain without a breach of this Contract or other obligation of confidence;
- b. is obtained from a third party who has no obligation of confidentiality to the Disclosing Party; or
- c. is already known, rightfully received or independently developed, by the Receiving Party free of any obligation of confidence and without breach of this Contract.

"Commencement date" means the date upon which the Service Provider receives the notice to commence the work issued by IHMCL.

"Contract" shall mean & include RFP, Notice for Inviting Tender (NIT), the tender documents and letter of acceptance thereof and the formal agreement, to be executed between IHMCL and the Service Provider together with the complete documents referred to therein including the conditions with appendices and any special conditions, the specifications, designs, drawings, bill of quantities with rates and amounts. All these documents taken together shall be deemed to form one Contract and shall be complementary to each other

"Contract Year" means each twelve (12) month period commencing on the System Development Start Date and ending on every subsequent anniversary of the System Development Start Date for the duration of the Concession Period.

"Convoy" means a group of vehicles travelling together for mutual protection, or support, or for a common cause.

"Data Center" means the facility that shall be used to house computer systems and networking equipment essential for hosting the software(s)/IT System in compliance with the requirements of the Project.

"Defect" means:

- a. any aspect of the design of the System Development which is not in accordance with the requirements of this Contract; or

- b. any defect, fault, or omission in the System Development, or any other aspect of the System Development which is not in accordance with the requirements of this Contract.

"Delay" means any event which directly prevents or delays the Vendor from achieving Provisional Acceptance by the Date for Provisional Acceptance and/or Final Acceptance by the Date for Final Acceptance.

"Deliverable" means any work, services, work product or material in whole or in part created or developed by or on behalf of the Vendor (including by the Vendor Personnel) for Grantors under this Concession Agreement, and includes any items of software, specific elements of software code, configuration settings and Documentation.

"Detailed Design" means the following components submitted at relevant phases after the signing of this Contract:

- a. updated High Level System Design;
- b. Low Level System Design;
- c. Database Conceptual Schema;
- d. Workflow Approval rules;
- e. Hardware and Data Center deployment architecture;
- f. Networking deployment diagrams;
- g. Graphical User Interface (GUI) design; and
- h. Data Structure definition.

"Defined Load Levels" means the transactions generated simultaneously by five thousand (5,000) toll plazas.

"Disabling Code" means any software code that has been deliberately embedded in particular software by the owner or licensor of such software and that would have the effect of disabling, limiting or shutting down the use of all or any part of the software.

"Disaster" means an event (which may include a Force Majeure Event) that causes, or is likely to cause, a material adverse effect on the provision of the Project, or the business operations of the Vendor or Grantor that cannot be managed within the context of normal operating procedures including interruption, destruction or other loss of operational capacity.

"Documentation" means all reports, plans, diagrams (including network diagrams), documentation, inventories, logs, manuals, technical design, standards, technical notes and records developed by or on behalf of the Vendor for provision to Grantor in the course of performing the Project and O&M and includes any replacements, amendments and additions to such documentation.

“ETC” A subsystem capable of electronically charging a toll to an established customer account by reading a number matched to an account and encoded on a transponder that is mounted on a vehicle. Lane level equipment consists of an overhead mounted antenna, a transceiver/modulator for processing RF signals, a reader/controller for both verification processing and data storing, and a vehicle mounted transponder.

“ETC Transaction” means any transaction captured under the ETC program.

“FASTag” is a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly from the account linked to it.

“Government” means the Government of India.

“Government Authority” means any national or local agency, instrumentality, body, official, employee or agent of the Republic of India exercising executive, legislative, judicial, quasi-judicial or administrative powers and having jurisdiction or authority over the matter in question.

“Grantor” means IHMCL, or any agency deputed by IHMCL, that shall grant to the Vendor the rights to develop the System as per conditions specified in this RFP.

“Grantor’s Data” means all data and information relating to the Grantor and their operations, customers, clients, Personnel, assets and programs in whatever form that information may exist and whether entered into, stored in, generated by or processed as part of the Project, IT System and/or Operation and Maintenance and any other data relating to any of the Project, IT System and Operation and Maintenance.

“Go-Live” means the issuance of Final Acceptance Certificate by the Authority/IHMCL.

“Grantor’s Environment” means the Grantors' (and required third parties') systems, platforms or networks that shall be integrated, or modified, by the Vendor (or deputed parties) for the purpose of development of the PTMS system.

“Lane Operator” refers to the agent appointed by IHMCL, or toll operating agency, or Toll Vendor responsible for operations at the Toll Plaza.

“Late Payment Rate” means the rate that may be agreed by the Grantor for penalties related to delayed payments.

“Legal Requirement” means any domestic law, statute, ordinance, rule, standard, administrative interpretation or guideline, regulation, order, writ, injunction, directive, judgment, decree, policy, requirement under contracts/agreements and any requirement of any Government Authority having jurisdiction over a person, or any of its respective properties, assets or representatives, or the matter in question.

“Letter of Award (LOA)” means the issue of a signed letter by IHMCL to Successful Bidder conveying its intention to accept the offer of Successful Bidder and awarding the work mentioning the total Contract Value

"Mapper" refers to the electronic database of information relevant for FASTag information maintained by NPCI.

"NPCI" means National Payments Corporation of India.

"Incidents" means an unplanned interruption to the IT System or O&M, a reduction in the quality of the IT System or O&M, including but not limited to:

- a. any lack of items provided within the IT System that impact normal operations as defined within the MPSS;
- b. an event of access or an information attack on any Grantor system, not authorized in accordance with the Grantor's policies and standards from time to time. It includes unauthorized probing and browsing, disruption, denial of service, altered or destroyed Grantor's Data or unauthorized changes to any Grantor system; or
- c. a warning that a threshold has been reached, something has changed, or a failure has occurred where the warning is specified to be an Incident.

"Intellectual Property Rights" means all industrial and intellectual property rights of any kind including but not limited to copyright (including rights in computer software), trade mark, service mark, design, patent, trade secret, semiconductor or circuit layout rights, trade, business, domain or company names, moral rights, rights in Confidential Information, know how or other proprietary rights (whether or not any of these are registered and including any application for registration) and all rights or forms of protection of a similar nature or having equivalent or similar effect to any of these which may subsist anywhere in the world.

"IT System" means:

- a. servers, hardware and other equipment (including firmware);
- b. operating systems software, middleware and any other non-application software (including virus detection, intrusion detection and data loss prevention software);
- c. third party licensed software that provides the core functionality required to meet the requirements for the Application; and
- d. configurations and customizations to third party licensed software and interfaces required to meet the requirements for the Application,

all operating as separate elements in accordance with, amongst other things, the functional and non-functional requirements of the Grantor and also in a fully interoperable and effective manner in compliance with the requirements of this Contract.

"IT System Hardware" means modern information technology hardware equipment (including self-service terminals, kiosks, servers, personal computers, networking

equipment and printers) to be procured, installed, operated and maintained by the Vendor under this Contract.

"KPI Deductions" means the amounts payable by the Vendor to the Grantor pursuant to Minimum Performance Specifications and Standards for Operation and Maintenance of the IT System and as set out in this RFP for failing to comply with the MPSS.

"Law" or "Legislation" - shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Government of India or State Government or regulatory authority or political subdivision of government agency.

"Letter of Award (LOA)" means the issue of a signed letter by the Employer of its intention to accept the offer of successful bidder and awarding the work mentioning the total Contract Value.

"Local Currency" means the Indian Rupees

"Low Level System Design" means a component-level design process that follows a step-by-step refinement process. This process is to be used for designing data structures, required software architecture, source code and ultimately, performance algorithms.

"Major Problem Review" means a review of the response and management of Problems to develop future learnings and each such review will include an examination of the following:

- a. those things that were done correctly;
- b. those things that were done incorrectly;
- c. what could be improved in the future;
- d. how to prevent recurrence; and
- e. whether there have been any responsibilities of the Vendor or any Other Supplier that were not performed and whether follow-up actions are needed.

"MPSS" means the Minimum Performance Specifications and Standards that the Vendor must comply with in undertaking its other obligations under this Contract.

"MoRTH" means Ministry of Road Transport and Highways.

"NHAI" means National Highway Authority of India, New Delhi.

"Open Source Software" means any software which, as a condition of its use, modification or distribution, requires that such software, any modification to that software or any other software with which such software is combined or distributed be:

- a. disclosed or distributed in Application Source Code or object code form;
- b. licensed for the purposes of making modifications; or

- c. redistributable,
- d. to any third parties.

"Operation and Maintenance" or "O&M" includes the operation of the IT System as per this Contract and the following services (and all related tasks and activities) in relation to each element of the IT System:

- a. adaptive maintenance services;
- b. corrective maintenance services;
- c. perfective maintenance services;
- d. preventive maintenance services;
- e. general systems support services (including the provision of technical support, technical advice and technical assistance to Authorized Users for the IT System through direct interaction and through service desk referrals and transfers so as to achieve continuous improvement in user satisfaction for Authorized Users and in the number of incidents and problems reported by Authorized Users that are of a technical nature),

which must be performed without altering the required functionality or performance of any element of the IT System and so as to ensure that:

- a. elements of the IT System are current in relation to the Grantor's business requirements, technology architecture and performance requirements;
- b. the IT System operates at the level at least equal to the availability and performance contemplated by this Contract;
- c. Defects are resolved within specified timeframes and in any event in a manner which minimizes disruption to the Grantor; and
- d. continuous improvement is achieved with respect to user satisfaction for Authorized Users of the IT System and the number of incidents and problems reported by Authorized Users that are of a technical nature, as more fully described in the MPSS.

"Party" shall mean IHMCL or Bidder individually and **"Parties"** shall mean IHMCL and Bidder collectively.

"Personal Information" means information or an opinion (including information or an opinion forming part of a database) whether true or not, and whether recorded in material form or not, about an individual whose identity is apparent, or can be reasonably ascertained, from the information or opinion by the entity holding the information, or when put together with other information would directly and certainly identify an individual.

"Pre-existing Intellectual Property Right" means a person's Intellectual Property Rights existing prior to the Signing Date of this Contract or subsequently and independently

brought into existence other than in the course of performing obligations under this Contract.

"Personnel" means persons hired by the Service Provider as employees and assigned to the performance of the Services or any part thereof.

"Problems" means the cause of one or more Incidents.

"Project" means the undertaking of the System Development, the Operation and Maintenance of the IT System, the financing of the System Development and the performance and observance of each of the Vendor's obligations pursuant to or contemplated by this Concession Agreement, including as set out in this RFP.

"Project Assets" means all movable and immovable assets whether tangible or intangible used in relation to or pertaining to the Project, including:

- a. all assets procured, installed, built or created pursuant to this Contract;
- b. all data provided to or created by the Vendor pursuant to this Contract;
- c. all project information created or in the possession or control of the Vendor;
- d. all Intellectual Property Rights;
- e. all IT System Hardware, tools, equipment and spares;
- f. the Detailed Design(s); and
- g. the IT System, including as modified following the Refresh.

"Project Offices" shall refer to IHMCL Headquarters, NHAI head quarter, and toll booths spread operated by the NHAI, and its authorized agencies, across India.

"Punch List Item" means any uncompleted or deficient part of the IT System as specified in a Provisional Acceptance Certificate, the lack of which or the failure to complete which, considered individually or in aggregate with all other Punch List Items, does not adversely affect:

- a. the performance of the Vendor's Operation and Maintenance obligations; and
- b. the safety and reliability of using the IT System for training purposes.

"Punch List Rectification Plan" means a plan specifying how it intends to rectify or complete the Punch List Items specified in the Provisional Acceptance Certificate, including a timetable for rectifying such Punch List Items.

"Personnel" of a party means officers, employees, agents and Subcontractors of that party (including Approved Subcontractors), and includes officers, employees, agents and subcontractors of any Subcontractor.

"Prudent Industry Practice" means, in relation to any undertaking:

- a) the exercise of that degree of skill, diligence, efficiency, prudence, foresight and care; and

- b) implementing those practices, methods, specifications and standards, as may change from time to time.

"Prohibited Act" means, in relation to the Vendor, its Shareholders, or any of their Affiliates, and whether performed directly or indirectly, any:

- a) violation of any of the rules governing the bidding for the Project; or
- b) engaging in any Coercive Practice, Corrupt Practice or Fraudulent Practice.

"Relevant Consents" means, except as the context otherwise provides in the case of Lapse in Relevant Consent (National), all national and local consents, permissions, approvals, authorizations, acceptances, licenses, exemptions, filings, registrations, notarizations and other matters, which are required under any Legal Requirement, any Relevant Rules and Procedures or under the terms of, or in connection with, this Concession Agreement or which would normally be obtained by a prudent person in connection with the Project (including in connection with the System Development, the Project Assets and the Operation and Maintenance of the IT System), from any Government Authority or third party

"Relevant Rules and Procedures" means:

- a. the regulations of the Government of India in effect during the Concession Period and any Legal Requirement governing the activities of the Vendor and/or the Grantors or applicable to this Concession Agreement and/or the Project;
- b. all applicable information technology industry standards specified by the Government of India which may come into force and be binding on the Party in question or applicable in relation to the Project;
- c. all Relevant Consents and all conditions applicable thereto; and
- d. all instruments, regulations, requirements, rules, safety cases, codes of practice and other documents or instruments contemplated by, made or entered into under or pursuant to any of the items specified in paragraph (a) or (b) above, and all other rules and other procedures which concern the giving of any Relevant Consent in relation to, or the acceptance or approval of, the Project.

"RFP" shall mean Request for Proposal, Tender Document or Bidding Document including the written clarifications & Corrigendum/Addendum issued by IHMCL in respect of the RFP.

"Review Procedure" means submission of relevant documents by the Vendor to the Grantor for the purpose of receiving feedback on the documents and receipt of feedback from the Grantor on the above documents.

"Software Development Cost" means the fees (in Indian Rupees) charged by Vendor for designing, developing, supplying, testing, installation, commissioning, configuration (with other existing systems at the Toll Plaza), System Integration, operating and maintaining the IT System in accordance with this RFP Document. The cost shall be inclusive of all taxes, levies, duties, incidental charges, etc., except GST that shall be handled as per terms specified in the RFP. The Software Development Cost shall include the cost of replication of PTMS Software to additional Project Offices.

"Target Financial Close Date" means the mutually agreed date after the Signing Date when both Grantor and Vendor are in a position to start the system development.

"Warranty Period" means a period of one (1) year after the Expiry Date or Termination Date, in which the Vendor must ensure the system is functional as per agreed guidelines.

"Services" means requirements defined in this Request for Proposal including all additional services associated thereto to be delivered by the Service Provider.

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

"Successful Bidder" means the Bidder, who, after the complete evaluation process, gets the Letter of Award. The Successful Bidder shall be deemed as "Contractor" appearing anywhere in the document.

"Virus" means a computer program, code, device, product or component that is designed to or may in the ordinary course of its operation, prevent, inhibit or impair the performance of a Deliverable in accordance with this Contract, excluding any Disabling Code.

"Working Week" means five (5) Working Days from Monday till Friday.

PART - II: SCHEDULE OF THE TENDER (KEY DATES)

Sl. No.	Event Description	Key Dates / Time
1.	Invitation of RFP	12 th June 2019
2.	Last date for receiving queries	19 th June 2019
3.	Pre-Bid meeting at IHMCL HQ	20 th June 2019 at 11:00 AM
4.	IHMCL to response to queries latest by	25 th June 2019
5.	Bid Due Date (for online submission)	3 rd July 2019 (Up to 15:00 Hrs IST)
6.	Physical submission of <ul style="list-style-type: none"> • Document Fee • EMD/Bid Security • Power of Attorney • Any other relevant document(s) as per RFP Physical submission shall be done at IHMCL office.	till 15:30 Hrs IST on 3 rd July 2019
7.	Opening of Technical Bids	at 16:00 Hrs 4 th July 2019
8.	Opening of Financial Bid	within 10 days from Bid Due Date
9.	Letter of Award (LOA)	Within 15 days of Bid Due Date
10.	Letter for Commencement of Services (post verification of Bank Guarantee)	Within 7 days of issuance of LOA
11.	Validity of Bid	120 days from Bid Due Date
12.	Signing of Agreement	Within 20 days of award of LOA

PART - III: INSTRUCTIONS TO BIDDERS (ITB)

3. BID CONDITIONS

3.1 INFORMATION

The Bidders are invited to submit Technical, and Financial Proposals (collectively called as “The Proposal”), as specified in this RFP, for developing and maintaining “IHMCL’s Proprietary Toll Management System (PTMS)”. Details on the format(s) of submission and list of necessary supporting documents are provided in following sections. The term “Bidder” refers to the entity participating in this bidding. The Proposal will form the basis for contract signing with the selected bidder.

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 section - “Part - II: Schedule of the Tender”.

3.2 BIDDING FEES

a. Document Fee: The document fee shall be submitted, as a part of the proposal, in the form of Bank Draft of INR 5,000/- (INR Five Thousand only) from a scheduled Indian Bank approved by RBI drawn in favour of “Indian Highways Management Company Limited” payable at New Delhi, India, as a non-refundable processing fee. Proposals not containing the document fees will be rejected.

b. Bid Security/Earnest Money Deposit (EMD): The bid security/Earnest Money Deposit (EMD) for a sum of INR 26,00,000/- (INR Twenty Six Lakh) shall be submitted, as a part of the proposal, in the form of a Demand Draft, from a scheduled Indian Bank approved by RBI drawn in favour of “Indian Highways Management Company Limited”, valid up to 180 (one hundred and eighty) days from the date of receipt of proposal, payable at New Delhi. Proposals not containing the earnest money deposit will be rejected.

IHMCL will not be liable to pay any interest on bid security deposits. Bid security of technically qualified but unsuccessful Bidders shall be returned, without any interest, within two months after acceptance of LOA by selected Bidder or when the selection process is cancelled by the IHMCL. The Successful Bidder’s Bid Security shall be returned, without any interest, post the Successful Bidder signing the contract and furnishing the Performance Bank Guarantee in accordance with provisions of the RFP and contract.

IHMCL will be entitled to forfeiture and appropriation of the bid security as mutually agreed loss and damage payable to IHMCL in regard to the RFP without prejudice to the IHMCL’s any other right or remedy under the following conditions:

- (i) If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as envisaged under this RFP (including the Standard Form of Contract);
- (ii) If any Bidder withdraws its Proposal during the period of its validity as specified in this RFP and as extended by the Bidder from time to time,
- (iii) In the case of the Successful Bidder, if the Successful Bidder fails to sign the contract or provide the Performance Bank Guarantee within the specified time limit, or

- (iv) If the Bidder commits any breach of terms of this RFP or is found to have made a false representation to IHMCL.

3.3 GENERAL

IHMCL defines, for the purposes of this provision, the terms set forth below:

- a. IHMCL reserves the right to make inquiries with any of the Clients listed by the Bidders in their previous experience record. If it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the “Prohibited Practices”) in the Selection Process, IHMCL will, without prejudice to its any other rights or remedies, consider forfeiture and appropriation of the Bid Security, as mutually agreed genuine pre-estimated compensation and damages payable to IHMCL for, inter alia, time, cost and effort of IHMCL, in regard to the RFP, including consideration and evaluation of such Bidder’s Proposal.
- b. IHMCL will reject a proposal for award if it determines that the Bidder has engaged in corrupt or fraudulent activities in competing for the contract in question.
- c. IHMCL will declare a Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for and in executing the contract.
- d. For the purposes of this RFP, the following terms shall have the meaning hereinafter respectively assigned to them:
 - (i) “Corrupt Practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of IHMCL who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of IHMCL, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of IHMCL in relation to any matter concerning the Project;
 - (ii) “Fraudulent Practice” means a misrepresentation of facts in order to influence the selection process or the execution of a contract in a way which is detrimental to IHMCL, and includes collusive practices among suppliers (prior to or after submission of proposals) detailed designed to establish prices at artificial, non-competitive levels and to deprive the 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 persons or property to influence any person’s participation or action in the Selection Process;
 - (iv) “Undesirable practice” means 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 Selection Process; or having a Conflict of Interest;
 - (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 Selection Process.
- e. Confidentiality: Information relating to evaluation of proposals and recommendations concerning awards of contract shall not be disclosed to the Bidders who submitted the proposals or to other persons not officially concerned with the process, until the winning firm has been notified that it has been awarded the contract.
- f. Right to reject any or all Proposals:
 - (i) Notwithstanding anything contained in this RFP, IHMCL reserves the right to accept or reject any Proposal and to annul the Selection Process and reject all Proposals, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
 - (ii) Without prejudice to the generality of above, IHMCL reserves the right to reject any Proposal if:
 - at any time, a material misrepresentation is made or discovered, or
 - The Bidder does not provide, within the time specified by IHMCL, the supplemental information sought by IHMCL for evaluation of the Proposal.
 - (iii) Such misrepresentation/improper response by the Bidder may lead to the disqualification of the Bidder. If such disqualification/rejection occurs after the Proposals have been opened and highest-ranking Bidder gets disqualified/rejected, then IHMCL reserves the right to consider the next best Bidder, or take any other measure as may be deemed fit in the sole discretion of IHMCL, including annulment of the Selection Process.
- g. The Bidder is required to follow the highest level of work ethics, if any member of the Bidder’s organization has a Conflict of Interest or indulge in “Prohibited Practices”; the proposal is liable to be disqualified. Further, in the event any entity has been barred by the Central Government, any State Government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project or bid, and the bar subsists as on the date of Proposal submission Date, it would not be eligible to submit a Proposal.
- h. Bidders shall bear all costs associated with the preparation and submission of their proposals, and their participation in the Selection process, and presentation including but not limited to 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 its Proposal. The IHMCL is not bound to accept any Proposal, and reserves

the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability.

- i. After submission of the proposals by the Bidder, to the satisfaction of IHMCL, if clarifications are required or doubt arises as to the interpretation of anything included in the submitted documents, the bidder shall, on receipt of written request from IHMCL, furnish such clarification to the satisfaction of IHMCL within five (05) working days without any extra charge.
- j. The Successful Bidder shall not accept or engage in any assignment that may place it in a position of not being able to carry out the assignment in the best interests of IHMCL and the Project.
- k. Acknowledgement by Bidder:
 - (i) It shall be deemed that by submitting the Proposal, the Bidder has:
 - made a complete and careful examination of the RFP;
 - accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of IHMCL;
 - satisfied itself about all matters, things and information, including matters herein above, necessary and required for submitting an informed Application and performance of all of its obligations there under;
 - acknowledged that it does not have a Conflict of Interest; and
 - agreed to be bound by the undertaking provided by it under and in term hereof.
 - (ii) IHMCL and/ or its advisors/ consultants shall not be liable for any omission, mistake or error on the part of the Bidder in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP or the Selection Process, including any error or mistake therein or in any information or data given by IHMCL and/ or its advisors.

3.4 PRE-BID MEETING

- a. Pre-Bid Meeting of the Bidders will be convened at the designated date, time as specified in the Key Dates at IHMCL OFFICE. A maximum of two representatives of each Bidder will be allowed to participate on production of an authorization letter from the Bidder.
- b. The Bidders who are interested in attaining the pre-bid meeting should confirm IHMCL about the participation one day prior to the schedule. The confirmation can be sent to ***info@ihmcl.com***.
- c. During the course of Pre-Bid Meeting, the Bidders will be free to seek clarifications and make suggestions for consideration of IHMCL. IHMCL will endeavour to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive selection process.

3.5 ELIGIBILITY/ PRE-QUALIFICATION CRITERIA

A. The bidder qualifying the following criteria shall be considered eligible to bid for this RFP. The Technical Proposals of the Bidders shall be evaluated for meeting the eligibility/pre-qualification criteria based on the parameters listed below:

Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
1.	Legal Entity	<ul style="list-style-type: none">i. The Sole Bidder or the Lead Member, in case of a consortium, must be a business entity incorporated in India under the Companies Act, 1956/2013 or the Limited Liability Partnerships Act, 2008.ii. In case of a consortium, the other Member of the consortium should be incorporated as per (i) above or equivalent law(s) in the country of jurisdiction of the entity subject to the following conditions<ul style="list-style-type: none">a) maximum number of members in the Consortium shall be two;b) members of the Consortium shall nominate one member as the lead member (the “Lead Member”), who shall be responsible for all interactions with IHMCL;c) all members in the Consortium shall be jointly and severally liable;d) no bidder applying individually or as a member of a Consortium, as the case may be, can be member of another Consortium.e) Proposal/Bid should contain the information required for each member of the Consortium;f) Proposal/Bid should include a brief description of the roles and responsibilities of individual members;iii. The Sole Bidder / all members in case of a consortium should be registered with GST in India. In case any	<ul style="list-style-type: none">i. Copy of Certificate of Incorporation / Registration under Companies Act, 1956/2013 or any equivalent foreign act, or partnership deed as applicableii. Power of Attorney for Lead Member of Consortium as per the format enclosed at Annexure 6iii. GST Registration Certificateiv. In case of foreign entity, an undertaking on GST registration, as applicable

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
		consortium member is a foreign entity, the Bidder can give an undertaking along with the Proposal that in case of award, the foreign consortium member will register with the GST Authority within 30 days of LoA.	
2.	Annual Turnover	<p>The Sole Bidder or the Lead Member in case of consortium should have an average annual turnover of minimum Rs. 75 crores during the last three (03) financial years, i.e. FY 2016-17, FY 2017-18 and FY 2018-19</p> <p><i>For the purpose of this criterion, annual turnover of only the bidding entity will be considered. Annual turnover of any parent, subsidiary, associated or other related entity will not be considered.</i></p>	<ul style="list-style-type: none"> • Certificate from the Statutory Auditor clearly specifying the annual turnover for the specified years • Audited and Certified copies of Balance Sheet and Profit/Loss Account of last 3 Financial Years last three (03) financial years, i.e. FY 2016-17, FY 2017-18 and FY 2018-19
3.	Net worth	<p>The Sole Bidder or the Lead Member, in case of a Consortium must have positive Net worth in Indian Rupees as on 31 March, 2019.</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 created out of revaluation of assets, write back of depreciation and amalgamation.</p> <p><i>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.</i></p>	<ul style="list-style-type: none"> • Certificate from the Statutory Auditor clearly specifying the net worth of the firm as on 31 March 2019.

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
4.	Relevant Field of Business	The Sole Bidder, or the Lead Member, in the case of a Consortium, should be operating in the field of Software development/IT Solutions for at least five (5) years as on 31 March 2019. Information regarding the same should be provided along with documentary evidence.	Undertaking in the Bid Covering by the Sole Bidder/Lead Member, in case of a Consortium
5.	Relevant Experience	The Sole Bidder or any consortium member (in case of consortium) should have been awarded and successfully executed at least Five (5) projects related to Design & Development of Software Application having minimum value of INR 10 crore in India during last five years for Central/State Government departments/entities including PSUs as on the Bid Due Date.	<p>Sole Bidder/any Member of Consortium:</p> <ol style="list-style-type: none"> 1. Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution. 2. Completion Certificate issued & signed by the competent authority of the client entity on the entity's letterhead <p align="center">OR</p> <p>Self-certificate from the bidder signed by authorised 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 entity. IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>In case of large orders/orders with operations & maintenance phase, the completion/self-certificate may specify successful execution and in-operation status of a part of the order meeting the requirement. The format of the self-certificate is provided in Annexure 8</p>

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
6.	Certification	The Sole Bidder or the Lead Member and each Member, in case of a Consortium, should be a CMMi level 5 organization.	Valid copy of relevant certificate
7.	Undertaking of Blacklisting	The Sole Bidder or the Lead Member and each member of the consortium, in case of a Consortium, should not have been black-listed by any State / Central Government Department or Central /State PSUs as on Bid Due Date.	Affidavit certifying non-blacklisting as per format given in Annexure 9

3.6 PREPARATION OF PROPOSAL

- a. Bidders are requested to submit their Proposal in English language and strictly in the formats provided in this RFP. IHMCL will evaluate only those Proposals that are received in the specified forms and complete in all respects.
- b. In preparing their Proposal, Bidders are expected to thoroughly examine the RFP Document. Material deficiencies in providing the information requested may result in rejection of a Proposal.
- c. Client certifications or Purchase orders for the projects listed under the experience section: The certifications and/or PO must confirm the project attributes (size, fee, duration etc.) and the scope of work of the projects. The self-certification of the Bidder is also permitted accompanied by certified copy of work order/document certifying release of performance bank guarantee/ certified copy of payment received or any other document certifying the completion/part completion of the project as the case may be.
- d. The technical proposal must not include any information on the financial bid.
- e. Failure to comply with the requirements spelt out in this RFP shall lead to the disqualification of the bidder.
- f. Bidders should note the Bid Due Date, as specified in the section - "Part II: Schedule of the Tender", for submission of Proposals. Except as specifically provided in this RFP, no supplementary material will be entertained by IHMCL, and that evaluation will be carried out only on the basis of Documents received by the closing time of Bid Due Date as specified in the section - "Part II: Schedule of the Tender". Bidders will ordinarily not be asked to provide additional material information or documents subsequent to the date of submission, and unsolicited material if submitted will be summarily rejected. For the avoidance of doubt, IHMCL reserves the right to seek clarifications in case the proposal is non-responsive on any aspects.
- g. The Financial Proposal should be inclusive of all the costs including applicable taxes, duties, levies, permit, fees, entry fees, manpower, transportation charges, equipment insurance fees, custom duty, handling charges etc., except the Goods and Services Tax (GST) which shall be paid as per applicable rates. While submitting the Financial Proposal on e-portal, the Bidder shall ensure the following:
 - (i) All the costs associated with the Assignment shall be included in the Financial Proposal.
 - (ii) The total amount indicated in the Financial Proposal shall be without any condition attached or subject to any assumption, and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.
 - (iii) The proposal should be submitted on e-tender portal as per the standard Financial Proposal submission forms prescribed in this RFP.
 - (iv) Bidders shall express the price in Indian Rupees.
 - (v) Bidders must do their due diligence about the tax implications and IHMCL will not be liable for any incident.
- h. The Proposals must remain valid for a period of 120 days from date of submission of proposal. During this period, the selected bidder is expected to keep available the professional staff proposed for the assignment. If IHMCL wishes to extend the validity period of the proposals, it may ask the bidders to extend the validity of their proposals for a stated period. The bidder will be required to extend the validity period without any additional financial implication to IHMCL.

3.7 SUBMISSION, RECEIPT AND OPENING OF PROPOSALS

3.7.1 Submission of Bids

IHMCL has adopted the following process (referred to as the "Bidding Process") for selection of the qualified Bidder. All documents need to be submitted on e-tender portal. If any documents are to be submitted physically (viz. Document Fee, EMD and Power of Attorney etc.) they have to be submitted at the following address as per schedule defined in the RFP

*General Manager,
Indian Highways Management Company Limited.
2nd Floor, MTNL Building, Sector-19, Dwarka,
New Delhi - 110075
Phone: 011-20427810
Email: info@ihmcl.com*

- a. No proposal shall be accepted after the due date and time for submission of Proposals as specified in "Schedule of the Tender".
- b. After the Proposal submission until the contract is awarded, if any Bidder wishes to contact IHMCL on any matter related to its proposal, it should do so in writing at the Proposal submission address. **Any effort by the firm to influence IHMCL during the Proposal evaluation, Proposal comparison or contract award decisions may result in the rejection of the Bidder's proposal.**

3.7.2 Opening of Physical Documents

- i. Physical Documents submitted will be opened as per schedule defined under key dates at IHMCL Office, 2nd Floor, MTNL Building, Sector-19, Dwarka.
- ii. Bidder's authorized representative may attend the opening, and those who are present shall sign the Attendance Sheet as evidence of their attendance.
- iii. The Bidder's names, bid modifications or withdrawals and such other details as IHMCL at its discretion, may consider appropriate, will be announced at the time of opening.
- iv. Physical Documents shall be opened first and based upon the evaluation of these documents as per conditions specified in the RFP, IHMCL shall announce the names of the Bidders who have qualified for opening of Financial Bids. It is hereby clarified that Financial Bids of only such Bidders who are declared qualified as stated herein shall be opened.

3.8 EVALUATION OF BIDS

- i. Any time during the process of evaluation, IHMCL may seek for clarifications from any or all Bidders. Failure of any Bidder to provide the required

clarifications within the stipulated timeline may result in rejection of its Bid, at the sole discretion of IHMCL.

ii. **Phase-1: Physical Evaluation:**

The following documents shall be verified as part of physical evaluation

- a) **Document fee:** - The document fee (non-refundable) of **Rs. 5,000/- (Rupees Five Thousand only)** in the form of a demand draft drawn in favour of “Indian Highways Management Company Limited” drawn on any Scheduled bank payable at New Delhi shall be submitted by the Bidder.
- b) **EMD/Bid Security:** - The envelope containing EMD/Bid Security and other relevant documents as required by this RFP will be opened. All the documents shall require to be as per format prescribed in the RFP. At any stage during the entire Bid evaluation process, if the EMD is found to be invalid, the respective Bidder’s Bid shall be summarily rejected. **If Physical Documents submitted by the Bidder has the Financial Bid details, the Bid shall be summarily rejected.**

The Bidder shall furnish, as part of the Bid, Earnest Money Deposit (EMD) for an amount INR 26,00,000/- (Rupee Twenty Six Lakh only) The Successful Bidder’s EMD will be returned, without any interest, upon the Successful Bidder signing the Contract and furnishing the Performance Bank Guarantee in accordance with the provisions thereof.

IHMCL may, at the Successful Bidder’s option, adjust the amount of EMD in the amount of Performance Bank Guarantee to be provided by him in accordance with the provisions of the Contract.

The Earnest Money shall be in the form of a demand draft drawn in favour of “Indian Highways Management Company Ltd.” on any Scheduled bank authorised by RBI, payable at New Delhi.

EMDs of unsuccessful Bidders will be returned back to them after signing of Contract with the Successful Bidder or after the expiry of the validity period of the Bids, whichever is earlier.

c) **Other documents as specified the RFP**

The Technical Bids will be evaluated by an Evaluation Committee. The Bidder shall have to fulfil all the Eligibility Criteria as specified in the RFP. The Bidder shall have to submit all the required documents and forms specified as per **Annexure 1 - Annexure 10** (excluding Financial Proposal) physically. These documents will be scrutinized in this phase of evaluation. Those Bidders who do not fulfil the terms and conditions of Eligibility Criteria as specified in this tender will not be eligible for further evaluation.

Prior to further evaluation of the bids, IHMCL shall determine as to whether each bid is responsive to the requirements of this RFP document. A bid will

be declared non-responsive in case:

- a. If the Authorized Signatory holding Power of Attorney and Signatory are not the same
- b. If a bidder submits a conditional bid or makes changes in the terms and conditions given in this RFP document
- c. Failure to comply with all the requirements of RFP document by a bidder
- d. If the financial bid is not submitted in the formats prescribed in the RFP document
- e. If the financial bid is submitted is found submitted as a part of physical submission
- f. 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.
and
- g. The bid contains any pre-condition, assumption or qualification.

Evaluation of Technical Bids by the Evaluation Committee shall not be questioned by any of the Bidders. IHMCL may ask Bidder(s) for additional information/documents, visit to Bidder's site and/ or arrange discussions with their professional, technical faculties to verify claims made in Technical Bid documentation from the Bidder on the already submitted Technical Proposal at any point of time before opening of the Financial Proposal.

Based upon the evaluation of these documents and the conditions specified in the RFP, IHMCL shall announce the names of the Bidders who have qualified for opening of Financial Bids. It is hereby clarified that Financial Bids of only such Bidders who are declared qualified as stated herein shall be opened.

iii. Phase-2: Technical Evaluation

Only those Bidders who meet all the Eligibility Criteria as set out in Section 3.5 shall be considered for further evaluation of their Technical Proposals.

The Technical Proposals of the Bidders shall be evaluated based on the Technical Evaluation Framework as listed in the Table below:

Evaluation Parameters for Technical Proposal

Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
A.	Sole bidder/Lead Member Profile	30	
A1	Average annual turnover of the Sole Bidder/Lead Member in case of a Consortium, per annum during the last three (03) financial years, i.e. FY 2016-17, FY 2017-18 and FY 2018-19	30	Certificate from the Statutory Auditor clearly specifying the annual turnover for the specified years

Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required								
	Marks shall be allotted as given below: <ul style="list-style-type: none">• More than INR 150 Crore = 30 marks• More than INR 100 Crore and up to INR 150 Crore = 20 marks• INR 75 Crore and up to INR 100 Crore = 10 marks										
B.	Relevant Project Experience	70									
B1	<p>Experience of implementing project(s) related to Design & Development of Software Application having minimum value of INR 10 crore in India during last five years for Central/State Government departments/entities including PSUs as on the Bid Due Date.</p> <p>Marks shall be allotted as below:</p> <table><tr><th>No. of projects</th><th>Marks</th></tr><tr><td>Minimum five (5) projects and up to ten (10) projects</td><td>20</td></tr><tr><td>Minimum Eleven (11) projects and up to Fifteen (15) projects</td><td>30</td></tr><tr><td>Sixteen (16) or more projects</td><td>40</td></tr></table>	No. of projects	Marks	Minimum five (5) projects and up to ten (10) projects	20	Minimum Eleven (11) projects and up to Fifteen (15) projects	30	Sixteen (16) or more projects	40	40	<p>Sole Bidder/any Member of Consortium:</p> <p>1. Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution.</p> <p>2. Completion Certificate issued & signed by the competent authority of the client entity on the entity's letterhead</p> <p>OR</p> <p>Self-certificate from the bidder signed by authorised 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 entity. IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>In case of large orders/orders with operations & maintenance phase, the completion/self-certificate may specify successful execution and in-operation status of a part of the order meeting the requirement. The format of the self-certificate is provided in Annexure 8</p>
No. of projects	Marks										
Minimum five (5) projects and up to ten (10) projects	20										
Minimum Eleven (11) projects and up to Fifteen (15) projects	30										
Sixteen (16) or more projects	40										

Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required								
B2	<p>Experience of implementing project(s) related to Design & Development of Software for Toll Management System in India or Abroad having at least the following modules -</p> <ul style="list-style-type: none">• Cash Collection and reconciliation• Electronic Tag processing• Fare/Toll calculation Module• Integration Module• Revenue reports & Dashboard Features <p>Projects will be evaluated exclusively on the basis of software development component, and hardware components, if any, shall not be considered for the evaluation purpose.</p> <p>Marks shall be allotted as below:</p> <table><tr><th>No. of projects</th><th>Marks</th></tr><tr><td>Minimum two (2) projects</td><td>10</td></tr><tr><td>Between three (3) and five (5) projects</td><td>20</td></tr><tr><td>More than five (5) projects</td><td>30</td></tr></table>	No. of projects	Marks	Minimum two (2) projects	10	Between three (3) and five (5) projects	20	More than five (5) projects	30	30	<p>Sole Bidder/any Member of Consortium:</p> <ol style="list-style-type: none">1. Work order/ Contract clearly highlighting the relevant Modules2. Completion Certificate issued & signed by the competent authority of the client entity on the entity's letterhead <p>OR</p> <p>Self-certificate from the bidder signed by authorised 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 entity. IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>In case of large orders/orders with operations & maintenance phase, the completion/self-certificate may specify successful execution and in-operation status of a part of the order meeting the requirement. The format of the self-certificate is provided in Annexure 8</p>
No. of projects	Marks										
Minimum two (2) projects	10										
Between three (3) and five (5) projects	20										
More than five (5) projects	30										

Note:

- Important: Minimum technical score to qualify for Financial Proposal evaluation is 70 marks out of total 100 marks.**
- For an international project if the original client certificate and other documents are in language other than English than a translated copy duly confirmed by the Authorised signatory of the Bid/proposal.

- c) For projects where contract value has been received in any currency other than Indian Rupees, then the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of release of the RFP document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent.
- d) The bidder can use the experience of a company which controls, is controlled by, or is under the common control with such bidder. The 'control' means the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such bidder, as on the Bid Due Date. In such case, the bidder shall submit the following documents:
 - A certificate from the bidder's statutory auditor/ chartered accountant certifying the relationship between the bidder and the company whose experience is being shown along with the percent of voting shares under common control.
 - A letter of support, in form of undertaking, from the company whose experience is being shown as relevant experience that it will provide necessary technical and financial support to the Bidder in implementation of the project.
- e) For an entity claiming experience for an activity for technical evaluation, only those projects would be considered where such entity was either the sole project executant or was responsible for implementation of the respective component of the Project.
- f) The Bidders are advised that their Technical Proposals should be concise and precise and should contain only the relevant information.
- g) **Technical Proposal Presentations:** The Bidders may be required by IHMCL to make a presentation to IHMCL at a date, time and venue decided by IHMCL. In case, IHMCL decides to invite Bidders for presentation, the Bidders will be required to present their Technical Proposals in the presentation ensuring that all aspects are covered properly and adequately.
- h) IHMCL conduct Bidder-specific meeting(s) with individual Bidders to clarify aspects of the Bidder's Technical Proposal that require explanation in the opinion of IHMCL.
- i) The marks secured based on evaluation of the Technical Proposal as outlined above shall be the technical score of the Bidder ("Technical Score"). Only those Bidders who have secured Technical Score of 70 or more ("Threshold Score") shall be considered for opening and evaluation of their Financial Bids.

iv. Phase-3: Financial Bid Evaluation:

- a) The Financial Bid of all the Shortlisted Bidders will be opened at a date and time notified by IHMCL, in the presence of the Bidders' representatives who choose to attend. The Bidders' authorised representatives who are present shall be required to sign and record their attendance.
- b) Financial Bid of the Bidders would be evaluated on the basis of the "Total Proposal Price" quoted in the **Annexure 10: Format for Financial Bid Submission**

- c) The financial bid shall have to be provided on e-tender portal only. Financial bid of bidders received in any other forms shall be summarily rejected.
- d) Financial Bid determined to be substantially responsive will be checked for any errors. If there is any discrepancy in the Price Proposal, it will be dealt as per the following:
- If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the IHMCL there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. Arithmetic errors will be rectified.
 - If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
 - If there is a discrepancy between words and figures, the amount in words shall prevail.
 - If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of IHMCL, the bid is liable to be disqualified.
 - Any omission in filling the columns of “units” and “rate” or pertaining to the Taxes/levies, service tax as applicable etc., shall deemed to be treated as inclusive in the total project cost.

The amount stated in the Price Proposal will be adjusted in accordance with the above-mentioned points for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, his bid will be rejected, and the Bid Security shall be forfeited.

- e) The Bidder who has quoted the least Total Financial Bid shall be given a Financial Score of 100 marks. The Financial Scores of Bidders shall be computed as follows:

$$\text{Financial Score of a Bidder} = 100 \times [\text{lowest Total Financial Bid quoted (in INR)} / \text{Total Financial Bid quoted by the Bidder (in INR)}]$$

The marks secured based on evaluation of the Price Proposal as per the above shall be the Financial Score of the Bidder (“Financial Score”).

v. Composite Score

The Composite Score of the Bidders shall be worked out as under:

$$\text{Composite Score of a Bidder} = \text{Technical Score} \times 70\% + \text{Financial Score} \times 30\%$$

3.9 AWARD CRITERIA

Successful Bidder shall be identified through following approach:

- a) The Bidders shall be ranked based on their Composite Scores. The Bidder who has secured the highest Composite Score shall be considered to be the Successful Bidder.
- b) In case, two or more Bidders identified as per (a) above, secure identical Composite Score, the Bidder who has secured highest Technical Score shall be considered to be the Successful Bidder.
- c) Further, in case two or more Bidders identified as per (b) above, have identical Technical Scores, Successful Bidder shall be determined through a draw of lots conducted in the presence of such Bidders.

3.10 IMBALANCED BID

If the Bid of the Successful Bidder is seriously imbalanced in relation to IHMCL's estimate of the cost of work to be performed under the Contract, IHMCL may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of the proposed System. After evaluation of the price analyses, IHMCL may require that the amount of the Performance Bank Guarantee set forth in the RFP be increased and an additional Performance Bank Guarantee may be obtained at the expense of the Successful Bidder to a level sufficient to protect IHMCL against financial loss in the event of default of the Successful Bidder under the Contract. The amount of the additional increased Performance Bank Guarantee shall be equal to the seriously imbalanced amount, which shall be final, binding and conclusive on the Bidder.

3.11 PROCESS TO BE CONFIDENTIAL

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

3.12 AWARD OF CONTRACT

- a) After selection, a Letter of Award (the "LOA") will be issued by IHMCL to the Successful Bidder and the Successful Bidder shall, within three (3) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Successful Bidder is not received by the stipulated date, the IHMCL may, unless it consents to extension of time for submission thereof, appropriate the EMD of such Bidder and the second lowest cost (i.e. L2) Bidder may be proposed to perform the work as per rates quoted by L1 bidder.

- b) **Performance Bank Guarantee:** Performance Bank Guarantee for an amount equal to 10% of the Software Development Cost shall be furnished from a Nationalized/ Scheduled Bank, within seven (7) Days of issuance of LOA. The aforesaid Bank Guarantee shall be as per the format given in format provided in this RFP and will be valid for a period till Contract period after the expiry of Contract period and shall also have a minimum claim period of 1 year. For the successful bidder the Performance Bank Guarantee will be retained by IHMCL until the completion of the Contract Agreement by the supplier and be released 180 (One hundred eighty) days after the completion of the Contract Agreement.
- c) **Execution of contract:** After acknowledgement of the LOA and furnishing of Performance Bank Guarantee as aforesaid by the Successful Bidder, it shall execute the Agreement within as per key activity timelines prescribed in the RFP. The Successful Bidder shall not be entitled to seek any deviation in the Agreement. In case the Successful Bidder fails to comply with these conditions, IHMCL shall be entitled to forfeit the Earnest Money Deposit / Bid Security or demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security apart from any other legal right that may have accrued to IHMCL.
- d) **Commencement of Services:** The Successful Bidder is expected to commence the Services as per key activity timelines prescribed in the RFP. If the Successful Bidder fails to either sign the Agreement, commence the services or fails to demonstrate proof of performance, as specified herein, IHMCL may invite the second lowest cost (i.e. L2) Bidder for contract signing. In such an event, the EMD/ Performance Bank Guarantee, as the case may be, of the first ranked Bidder shall be liable to be forfeited.

3.13 PAYMENT TERMS

- a) During the Concession Period, the Vendor will be entitled to following payments only in Indian Rupees (INR):
 - i. Four payment(s) equal to 10% of the Software Development Cost as quoted in Annexure 10: Format for Financial Bid Submission towards the costs of development of system that shall be (henceforth known as “Development Payment”). This payment shall be made upon completion of following milestones as per RFP:
 - i. Requirement Gathering;
 - ii. System Design;
 - iii. System Development; and
 - iv. System Testing.

- ii. Quarterly O&M Payments on and from the completion of the third month following the O&M Start Date as per following formula:
 Quarterly O&M Payment = Software Development Cost * 0.03 - Penalties¹
- iii. Except as set out in this Section, the Vendor will have no claim or entitlement whatsoever to revenue or any other payment under or pursuant to this RFP/Concession Agreement whether from the Grantor or from any third party. In case the Concession is terminated, the parties shall bear charges as per definition in the following section (Financial Consequences of Termination).

3.14 **FINANCIAL CONSEQUENCES OF TERMINATION**

The following table captures the responsibilities of various parties in the event of Termination:

	Before Start of O&M	After O&M start
Grantor's event of default	1.05 * (EC - P - L)	1.05 * (EC - P - L)
Force Majeure	1.0 * (EC - P - L)	1.0 * (EC - P - L)

Notation	Definition
EC	Expenses incurred by Vendor (excluding the payments from Insurance) as certified by the Grantor's appointed expert provided that Expenses shall not exceed the Development Payment
P	Payments made by the Grantor till the Termination Date
L	Liquidated damages and other amounts payable by the Contractor to the Authority in accordance with the Concession Agreement, calculated as at time

¹ Defined in subsequent sections

3.15 PERFORMANCE BANK GUARANTEE

- a) The Successful Bidder shall submit a Performance Bank Guarantee in the form of bank guarantee from a Bank for a sum of Rs. _____ (Rupees _____) [equal to 10% of the Software Development Cost] and will be valid for a period till Contract period after the expiry of Contract period and shall also have a minimum claim period of 1 year.
- b) The Successful Bidder shall within fifteen (15) days of the issue of LOA or such time as indicated by IHMCL furnish Performance Bank Guarantee, by way of an irrevocable Bank Guarantee, in favour of “Indian Highways Management Company Limited”, payable at New Delhi.
- c) A copy of Performance Bank Guarantee is provided in Annexure 7: Format for Performance Bank Guarantee of this RFP.
- d) Failure of the Successful Bidder to comply with the requirements as above shall constitute sufficient grounds for the annulment of the LOA, and forfeiture of the Bid Security. In such an event, IHMCL reserves the right to:
 - i. consider the second ranked Bidder (with next highest Composite Score) as Successful Bidder provided it agrees to match the Total Financial Bid of the highest Composite Score Bidder if its Total Financial Bid is higher than that of the highest Composite Bidder.
 - ii. In case, the second ranked Bidder fails to match the above requirement, the next ranked Bidder shall be considered as Successful Bidder provided:
 - its Price Proposal Bid is lower than that of the Bidders ranked higher than it, or
 - agrees to match the lowest of the Total Proposal Prices of the Bidders ranked higher than it.
- e) The above process shall be reiterated until the identification of the Preferred Bidder or till the last ranked Bidder.

3.16 BANK GUARANTEE (BG)

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

- i. Any Nationalized Bank
- ii. Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 500 crores as per the latest Audited Balance Sheet of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account
- iii. A Foreign Bank (issued by a branch outside India) with a counter guarantee from any Indian Nationalized Bank.
- iv. Export Import Bank of India

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

The capital adequacy of the Bank shall not be less than the norms prescribed by RBI

The bank guarantee issued by a Cooperative Bank shall not be accepted.

3.17 CORRUPT OR FRAUDULENT PRACTICES

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

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

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

“Fraudulent Practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of IHMCL and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive IHMCL of the benefits of free and open competition.

3.18 CLARIFICATION AND AMENDMENT OF RFP DOCUMENTS

- a) Bidders may seek clarification on this RFP document no later than the date specified in the Schedule of the Tender. IHMCL reserves the right to not entertain any queries post that date. The Bidders are requested to submit the queries in electronic format (MS Excel file format only). Any request for clarification must be sent by standard electronic format (MS Excel file only) to the IHMCL’s office addressed to:

*General Manager,
Indian Highways Management Company Limited.
2nd Floor, MTNL Building, Sector-19, Dwarka,
New Delhi - 110075
Phone: 011- 20427810
Email: info@ihmcl.com*

- b) The format for sending the queries is as mentioned below, in MS Excel format only:

Sl No	RFP reference and Pg. No.	Existing RFP Clause	Clarification sought	Suggestion/Remark (If any)

- c) IHMCL will endeavour to respond to the queries not later than the date mentioned in this RFP. IHMCL will post the reply to all such queries on websites mentioned in RFP.
- d) At any time before the submission of Proposals, IHMCL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP documents by an amendment. All amendments/ corrigenda

will be posted only on the Official Website: <https://etenders.gov.in>, www.ihmcl.com/tenders. In order to provide the Bidders reasonable time for taking an amendment into account, or for any other reason, IHMCL may at its sole discretion extend the proposal submission date.

- e) The bidder's confirmation on participating in the pre-bid meeting must be sent to info@ihmcl.com as per schedule of events.

3.19 MISCELLANEOUS

- a) The Selection Process shall be governed by, and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process. IHMCL, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:
- i. suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and conditions relating thereto;
 - ii. consult with any Bidder in order to receive clarification or further information;
 - iii. retain any information and/or evidence submitted to IHMCL by, on behalf of and/or in relation to any Bidder; and/or
 - iv. Independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Bidder.

PART - IV: SCOPE OF WORK/FUNCTIONAL REQUIREMENTS SPECIFICATIONS (FRS)

1. Introduction

1.1 Background and Coverage

This section captures the functional requirements of the proposed PTMS (“System”) to be deployed by IHMCL across designated Toll Plazas.

PTMS is a software package for Toll collection and management which would serve as a backbone to integrate various technologies that exist currently, or are intended to be rolled out during the duration of the Project. For example, the software would have features to support Near Field Communication (NFC) cards when they are offered to the public.

The further sections capture the expected requirements of the System from the perspective of all stakeholders - Public, Financial Institutions, Operators, IHMCL/NHAI, and other Government Agencies. The section consists of following modules

- a) “General System Requirements”, captures general expectation from the System from a design, performance and features perspective.
- b) “Finance and Accounts Module”, captures details of fare calculation at the toll plaza. It shall also have provisions to calculate additional charges that may be levied at a vehicle for over-speeding, over loads, etc. The module shall also have features related to accounts reconciliation and support refunds related requirements.
- c) “Integration Module”, provides details regarding integration with various internal and external systems required within The System.
- d) “Employee Module”, captures various details available to employee regarding application processing and reports generation.
- e) “Maintenance Module”, highlights details regarding system configuration and metadata updates that shall be available to system administrators, or to other authorized users.

A key System requirement is to ensure integration with all lane level equipment as captured in the following diagram, and simultaneously generate and present detailed and consolidated information on the Toll Management System performance including issues at the lane / plaza / zone / regional and national level.

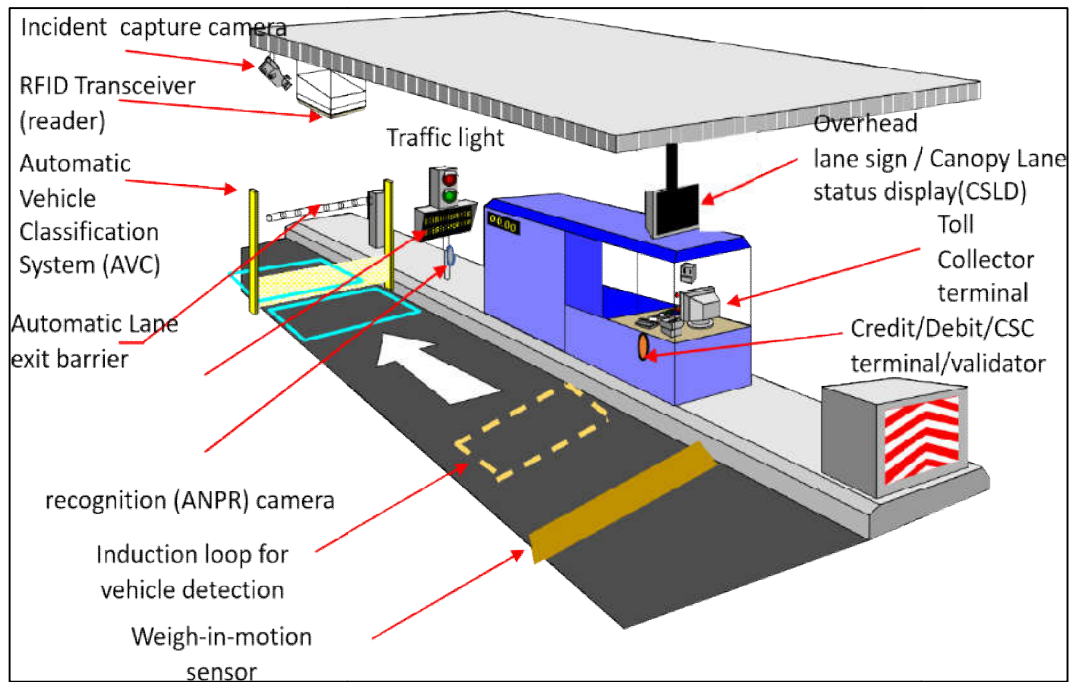


FIGURE 1: VARIOUS PLAZA EQUIPMENT

The System is also required to ensure a minimum throughput for the vehicles as per the following table:

S.no	Method of Payment	Target vehicle throughput in a toll lane
1	FASTag	1200 vehicles per hour
2	Cash	240 vehicles per hour
3	Smart card (T&G)	600 vehicles per hour
4	Validation	600 vehicles per hour

1.2 System Flow

The System should have the capability to handle both electronic and manual toll collection at the toll booths under the scope of the project. For cash transactions, the system should allow the POS operator to enter vehicle details, classification, collect cash, and prepare a consolidated report regarding cash collection across various Toll Plazas. For electronic collection, the system should forward the details to existing NETC system for cash processing. The following flowchart captures the details of processing.

The following diagram captures the various activities envisaged within the System in case of electronic tolling system.

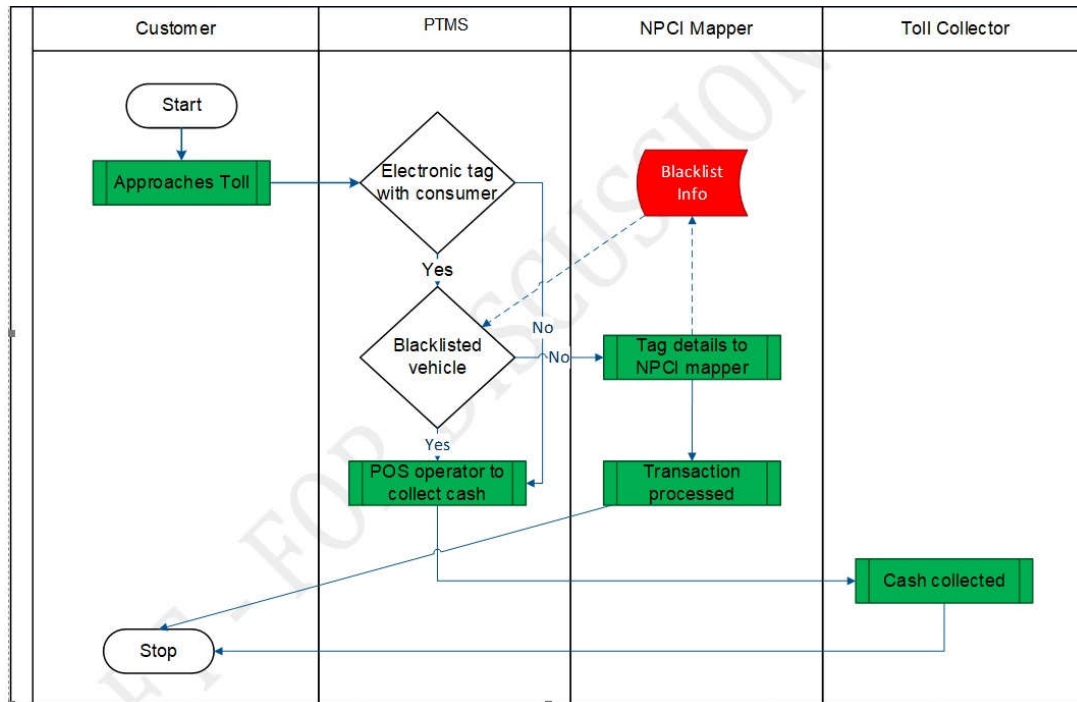


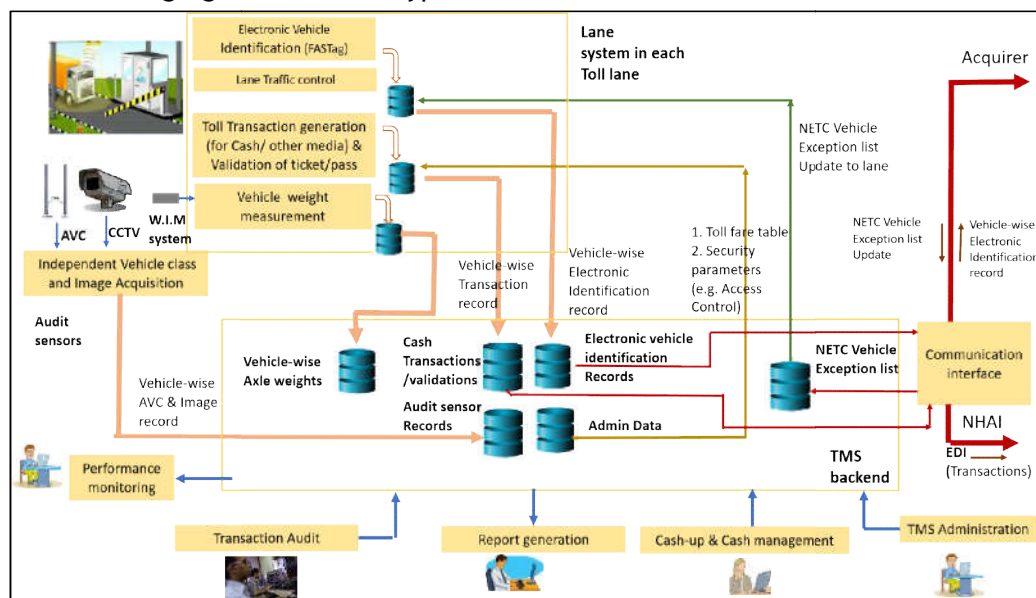
Figure 2: System Flow

1.3 Key Features

The key features of the PTMS are as below:

- a. **Highly secured and reliable system** - Integrated Dashboard to monitor real time cash collection along with ETC transaction with many checks and balances, and data archiving options.
- b. **Convenience of Plug and Play feature** - Support easy integration with various existing all HETC infra equipment/software at toll plaza, Interface with complementary systems (e.g. Plaza Queue monitoring) for TMS performance management
- c. **Centralized remote real-time System monitoring** - of toll collection, Lane & Plaza level equipment availability status, software sub-modules, etc.
- d. System shall automatically deduct **double toll fare for cash vehicle** passing through the FASTag express lane.
- e. **Focus on Security** - Adequate levels of encryption in database, transactions and communications.
- f. **Focused on enhanced ETC performance** - Support for both the existing SFTP-based communication (as per ICD 2.4 document) and the proposed API-based communication (as per ICD 2.5 document)
- g. **Scalable to other electronic media** - Use of other ETC media e.g. Contactless Smart card (e.g. NCMC), QR based payment, mobile ticketing etc. for rapid toll payment

The following figure shows the typical functional view of the PTMS.



PTMS - Typical functional view

The subsequent sections capture the design of the overall system approach for the System and the system deployment architecture. The Successful Bidder shall ensure to conduct site survey at their own cost for requirement study and resolution of any issues during maintenance period, if any required.

1.4 System Design

The System would have the following key elements from a logical system design perspective. It is clarified that the Bidder may choose an architecture/development methodology varying from the specified design, provided that the proposed System Design the Functional Requirements and the MPSS as specified in the RFP.

- Transaction Layer describes the various transactions of the System as presented to its end users.
 - Cash Transactions
 - ETC Transactions
 - Miscellaneous Transactions
- Integration layer refers to The System's interfaces with external third-party systems deployed at various toll plazas. The layer would interface with various equipment installed at the plazas to process transactions as captured by the transaction layer
- Processing layer describes the various processing expected from the system. The key applications being - NETC processing, fare calculations, cash processing, TLC, Finance, Accounting, reconciliation and Disputes.
- Reporting layer refers to the analytical capabilities of the proposed The System, the key ones being Status reports, Issue Resolution and cash status.

The following diagram depicts the various layers expected in the System as discussed above, while the subsequent table captures functionalities of the components.

Transactions	Integration	Processing	Reporting Module
<ul style="list-style-type: none"> •Cash Transactions •Electronic Transactions •Exempt Transactions •Miscellaneous Transactions 	<ul style="list-style-type: none"> •Camera (Incident/ANPR) •Fare Display •Lane/Exit Barrier •Traffic Light •Automatic Vehicle Classifier (AVC) •Weigh in Motion (WIM) •NETC System •RFID Reader •Other Readers (NFCs, Cards, etc.) •Lane Exit Barrier 	<ul style="list-style-type: none"> •NETC Transactions •Fare Calculations •CashTransactions Processing •Violations Processing •Equipment Status •TLC Module •Finance Module •Accounting Module •Payment Reconciliation •Dispute Processing 	<ul style="list-style-type: none"> •Plaza Status •Equipment Status •Cash Details •NHA/ IHMCL reports (Equipment status, SLA, uptime) •Variation in traffic(seasonal, monthly, growth)

FIGURE 3: SYSTEM DESIGN

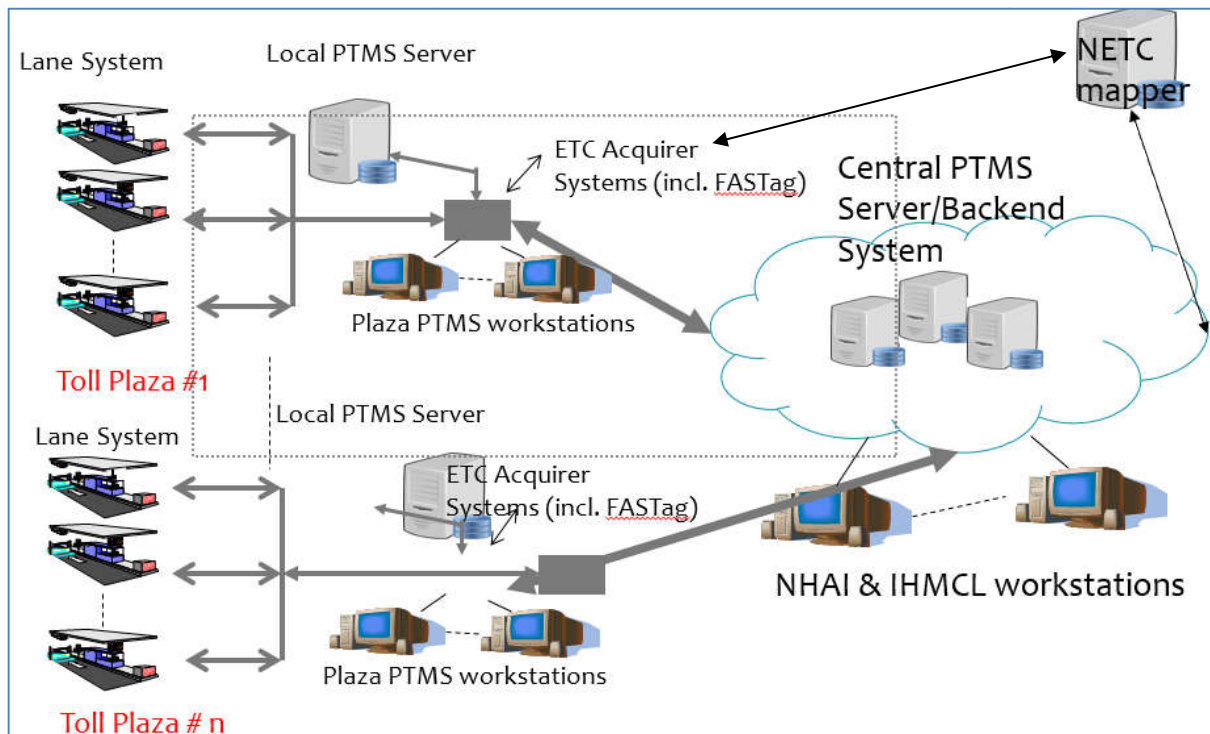


FIGURE 4: SYSTEM DEPLOYMENT ARCHITECTURE

2. General System Requirements

A.	General Requirements
1.	The information flow should be designed to ensure that the system can operate with minimum bandwidth (128 Kbps) for access and operation.
2.	The System should be deployed as easy-to-use plug and play application at Plaza servers. These applications should automatically transmit report related data (as captured in reporting layers) to a Central system at each minute for reporting and dashboard purpose.
3.	<p>System should be interoperable with various systems deployed across toll plazas.</p> <ul style="list-style-type: none"> a. AVC interface b. WIM interface c. RFID transponder d. Acquirer systems related to various electronic transactions e. Payment gateway f. Smart cards
4.	<p>The User interface of the web-enabled parts of the system should be designed to open in at least the following standard/popular browsers</p> <ul style="list-style-type: none"> a. Microsoft Internet Explorer b. Mozilla Firefox c. Google Chrome d. Apple Safari
5.	The System should have accuracy in the capture, processing, communication and reporting of Toll Transactions and associated information as per defined standards.
6.	The System should have features to ensure integrity and reliability as per defined standards in conditions like high humidity, dust, rains, temperature variations, and other adverse conditions, that may happen in the Toll Plaza.
7.	The System should be browser independent to the extent possible, the look and feel and the accessibility of the application should be similar across browsers.
8.	The System should automatically detect access by mobile browsers and adjust contents accordingly.
9.	The System must allow archival, retention and deletion of records as per IHMCL/NHAI's records retention policy of retaining records for a period of 10 years.
10.	The System should require captcha-based sign-on for any sign-on to the system, unless otherwise specified in this document for a particular module (e.g. Biometric login for TLC)
11.	The System should be designed in a modular approach to ensure that it can easily interface with new IT applications and systems that IHMCL/NHAI intends to

A.	General Requirements
	implement during the project lifecycle, for example, GPS based tolling system.
12.	The System should be scalable to other electronic media - Use of other ETC media e.g. Contactless Smart card (e.g. NCMC)), QR based payment, mobile ticketing etc. for rapid toll payment
13.	The System should have convenience of Plug and Play feature - Support easy integration with various existing all HETC infra equipment/software at toll plaza, Interface with complementary systems (e.g. Plaza Queue monitoring) for TMS performance management
14.	The System should be intuitive, easy to learn system based on level of use with users becoming effective with minimal training time.
15.	The System should be designed in a modular approach to ensure that it can easily interface with new IT applications and systems that IHMCL/NHAI intends to implement during the project lifecycle, for example, GPS based tolling system.
16.	All webpages should have pop-in as well as separate help menus to help users navigate easily across the system.
17.	The System should be integrated with mobile wallet / PPI business as prescribed by the Grantor.
18.	The System should cater to various solutions as required by Acquirer Bank as per ICD 2.4 (included in Appendix 4), or the current version as amended from time to time.
19.	The System should have features to integrate with various hardware specifications as specified by IHMCL within the following RFP: Tender No. IHMCL/LTE-RFP/HYBRID ETC/2018; However, IHMCL/NHAI reserves the right to delete from /modify/ add to these specifications, from time to time, in the interest of system improvement.
20.	The System shall have provision of Data archiving as described below: <ul style="list-style-type: none"> Summarised data shall be archived on removable media on a regular basis so as to free system resources. All plaza level data shall be transferred to removable electronic media at monthly intervals and stored. The archived data should be secured as per Data Encryption Policy 2017 (https://www.meity.gov.in/writereaddata/files/Guidelines-Contractual_Terms.pdf) After the expiration of the prescribed period for retention of the data on the various system levels, the data may be removed from the systems. The PTMS backend shall provide the facility to perform these functions. The archived data written to the electronic media shall be fully accessible by the PTMS and the various reporting facilities of PTMS without the necessity of having to restore the data.
21.	Data should be retained with the following frequency, at a minimum: <ul style="list-style-type: none"> PTMS Lane Level :3 months PTMS backend Detailed Data: 12 months Summarised Data :24 months
22.	The System should have adequate backup and redundancy provisions. All transaction and incident data shall be retained, duplicated and stored within the various levels of the PTMS such that should any level or component of that level suffer a partial or

A.	General Requirements
	total failure, the data is not irretrievably lost to the system. In addition, it shall be possible to reconstruct and restore the data for the failed level from the stored data into its original format.
23.	The Graphic User interface on the TCT shall be clutter-free and shall use colours with adequate contrast so as to cause minimum fatigue to the toll collector over the duration of her / his shift. The high contrast shall also make the TCT screen display adequately visible during a high incidence of ambient light like when sunlight directly falls on it. All the displayed text and graphics shall be large enough to be recognized with minimum effort.
24.	<p>The System shall incorporate features that will enhance the toll collector's productivity while performing repeated transactions over the shift period. These shall include, at a minimum:</p> <ul style="list-style-type: none"> • Minimum key presses to complete a cash transaction • Large on-screen text and graphics size • Optimum arrangement of keys on the TCT keyboard
25.	<p>The System should adhere to best in class performance requirements. The minimum standards are specified as follows:</p> <ul style="list-style-type: none"> • Time for the Toll Receipt to be printed: Less than 1.5 seconds after payment confirmation on the TCT by the Toll Collector • Maximum time for validation of a Return ticket / Daily pass: 0.5 seconds • Maximum read time of FASTag (from vehicle arriving over the presence loop and the barrier opening): 1 Second • Maximum time for Open loop Contactless Smart Card transaction (Offline) (from the time the card is presented to the validator to the barrier opening): 5 seconds • Any response on GUI to Toll collector key press on the TCT: Less than 1 second • Maximum transaction completion time from vehicle leaving the AVC area until the system getting ready for the next transaction: 1 Second

3. Vehicle Processing

B.	Vehicle Processing and Plaza Operations
1.	<p>The System should perform the following operations, in the following sequence, for processing a vehicle at the Toll Plaza</p> <ol style="list-style-type: none"> a. The Boom Barrier should be closed b. The System should check if the vehicle can be processed via electronic transactions. If the vehicle can be processed electronically, then c. Electronic Tags processing related rules should be followed. d. For vehicle that do not have active electronic payment modes, e. Fare Calculations and Cash Operations related rules should be followed. f. The Vehicle's fare should be displayed to the Lane Operator and vehicle user g. Receipt should be printed for cash operations. The receipts should have a QR/bar code that should be able to display following information upon input <ol style="list-style-type: none"> i. Date and Time of operation ii. Plaza details iii. Vehicle details iv. Cash collected v. Lane number vi. Receipt number h. Triggers should be initiated to capture vehicle's image via various cameras. The number plate details should be specifically captured for ANPR recognition i. The Boom Barrier should be opened j. The loop sensors should detect once the vehicle has passed, and close the boom barrier accordingly k. Steps eland f listed above should not be executed for exempted vehicles. However, step should be executed without fail.
2.	<p>The System should automatically capture the following minimum details associated with each transaction</p> <ol style="list-style-type: none"> i. Date and time ii. Plaza and lane ID iii. A sequential number assigned based on the data above iv. Vehicle classification (by toll Collector or as read from the FASTag and that received from the AVC in both cases) v. Discrepancy in vehicle classification, if any vi. Vehicle number, if captured by ANPR or manual entry vii. Toll Collector ID in case of manual user fee collection viii. Toll amount collected ix. Fine/Penalty and another amount charged x. Method of Payment: FASTag/CASH/ETC-Card/etc. xi. Exceptional transaction (exemption, convoy and other cases)
3.	<p>The System should automatically transmit the following details regarding the lane</p>

B.	Vehicle Processing and Plaza Operations																								
	<p>to a monitoring system at a Central location</p> <ul style="list-style-type: none">i. Lane Mode: Open/Closed/Maintenanceii. Status of following equipment:<ul style="list-style-type: none">a. Lane Controllerb. Boom Barrierc. RFID transceiverd. Weight in Motion (WIM) equipmente. Automatic Vehicle Classifiers (AVC)f. Internet connectivity (via lease line/dongle/etc.)iii. Total collections via cash/electronic mode since last transmission/for the dayiv. Number of vehicles processed since last transmission <p>The System should also have features to identify lanes that are not transmitting the above information as per frequency and issue alerts as per defined strategy.</p>																								
4.	<p>The system should support following components/devices for the operations</p> <ul style="list-style-type: none">i. An Overhead Lane sign (OHLS) / Canopy Lane Status Display (CLSD) that indicates to an approaching road user whether the toll lane is open for toll collection or it is closed and if open (in case of the CLSD), the lane mode.ii. An automatic Lane exit barrier (ALB)that allows the road user to leave the lane after toll payment.iii. A traffic light (with Red and Green aspects) (TL) that indicates to the road user whether the vehicle should remain at the toll lane or can exit.iv. The system should also have features for traffic control and guidance of toll paying vehicle through the toll lane																								
5.	<p>The OHLS sign should display the following details</p> <table><tr><th>S.No</th><th>OHLS</th><th>Automatic lane exit barrier</th><th>Traffic Light</th><th>Traffic control / guidance</th></tr><tr><td>1</td><td>Red</td><td>-</td><td>-</td><td>Don't enter lane</td></tr><tr><td>2</td><td>Green</td><td>Closed</td><td>Red</td><td>Stop /wait at toll booth (pay axis)</td></tr><tr><td>3</td><td>Green</td><td>Open</td><td>Green</td><td>Cleared for Exiting the Toll lane</td></tr></table>					S.No	OHLS	Automatic lane exit barrier	Traffic Light	Traffic control / guidance	1	Red	-	-	Don't enter lane	2	Green	Closed	Red	Stop /wait at toll booth (pay axis)	3	Green	Open	Green	Cleared for Exiting the Toll lane
S.No	OHLS	Automatic lane exit barrier	Traffic Light	Traffic control / guidance																					
1	Red	-	-	Don't enter lane																					
2	Green	Closed	Red	Stop /wait at toll booth (pay axis)																					
3	Green	Open	Green	Cleared for Exiting the Toll lane																					
6.	<p>In case a CLSD is used instead of an OHLS, the following will be the status details of the CLSD</p>																								

B. Vehicle Processing and Plaza Operations					
		Lane Mode	Lane Status	CLSD Message Displayed	CLSD Message Color
		FASTag - Hybrid mode (also supports other electronic media, validation and cash)	Lane is Open	LANE OPEN	Green
		All modes	Lane is Closed	LANE CLOSED	Red
		FASTag only mode - Dedicated	Lane is Open	(FASTag Logo) ETC TAG ONLY	Orange
		Cashless only mode - FASTag / Other Electronic media	Lane is Open	CASHLESS - No Cash Payment	Purple
		FASTag - Hybrid mode for Specific vehicle class	Lane is Open	(Vehicle class Logo) CAR (Vehicle Class) ONLY	Based on lane (MOP) mode

4. Electronic Tags processing

C.	Electronic Tag processing
1.	<p>The System should interface with the RFID transceiver installed at the toll plaza to receive the following details regarding an RFID tag</p> <ul style="list-style-type: none"> - TID - EPC Code - User Code
2.	<p>The System should automatically determine if the Tag is in the Exception list based on Exception list file inputs from the NPCI. Alternatively, the system should also have provision to push the TID/EPC code to designated servers and get the response.</p>
3.	<p>a. The System should have flexibility to be interoperable with new electronic processing systems based on technologies like EMV/ Credit / Debit card (supporting online transactions), that IHMCL/NHAI may choose in the future. For such technologies, the System should have features to push the relevant code read at the Plaza to the electronic processing system (e.g. Acquirer) via API push, and accept the response via API pull.</p> <p>b. The system shall also have the feature of integration with local Smart card validators (located on the same Toll lane) capable of generating off-line smart card (e.g. contactless, Open-loop, EMV/Rupay bank card) transactions. In this case the system shall send the vehicle class read from the FASTag or through other means, to the validator via a local data link (RS 232/ TCPIP)</p>
4.	<p>The System should automatically open the toll gates for non-blacklisted vehicles, or if the Central Server send the signals to open the gate.</p>
5.	<p>System should deploy the following logic for handling the Exception List files. The PTMS shall periodically download the Exception files from their respective Acquirers.</p> <p>On obtaining the FASTag details from the RFID transponder the system shall verify the Tag's Id (based on the EPC code/ TID code) in the current Exception list present in the system. If not found the system shall store the read-in FASTag details for transmission to the Acquirer.</p>
6.	<p>If the Tag's Id is found in the Exception list, the System should offer other modes of Electronic transaction (e.g. off-line/on-line Smart card pre-paid / Credit card / Debit card -based transaction). If the user does not avail of any of these or if they fail during an attempt, the system shall offer cash-based transaction for the user.</p>
7.	<p>System should have the capability to capture the information regarding vehicle overweight by fetching the data from the WIM system (if installed), and add the applicable penalty to the payable amount. The System should also display the word "Overload Vehicle" prominently at the lane display.</p>
8.	<p>The vehicle owner/driver should have features to protest the fine and get the vehicle weighed at a static Weighbridge. In case, the vehicle is not overweight at the Static Weighbridge, the System should send message to Acquirer Bank via automatic integration/manual input, to reverse the transaction and initiate a new transaction without the penalty amount.</p>
9.	<p>The System should have the capability to automatically calculate the fare details based on the toll plaza and time of operation.</p>

C.	Electronic Tag processing
10.	System should be able to calculate penalties if a non FASTag vehicle has entered the FASTag lane as per IHMCL/NHAI rules.
11.	<p>The System should have feature to alert the customer, Issuer Banks, and NPCI in case of following potential frauds</p> <ul style="list-style-type: none"> - The tag has been used across different toll plazas within 15-minute window - The tag is used across toll plazas that are not frequently used by the customer - The tag has been used after a considerable period of non-usage
12.	The System should have features to automatically push the captured images to the TMS backend and tag them with FASTag number, time of operations, lane number and the unique transaction number.
13.	<p>The System should automatically alert the Lane Operator in case of following issues</p> <ul style="list-style-type: none"> - Vehicle is overweight - The vehicle class as derived from the Mapper and the class from profiler does not match - Vehicle has been Speeding - Vehicle has been highlighted by NHAI/IHMCL/other agencies
14.	In case the System has issued alerts, the Lane Operator should have option to close the lane and prevent the vehicle from passing. If the above is not possible, then the System should automatically alert designated IHMCL/NHAI officials for necessary actions.

5. Fare Calculations and Cash Operations

D.	Fare Calculations and Toll Operations
1.	As the vehicle approaches the Pay-axis on the Toll Lane, the Lane operator in the Toll booth classifies the vehicle on the TCT keyboard. The System shall also capture the videos/images of such vehicles and tag them with transaction time, and vehicle number (as captured via ANPR/manual entry).
2.	The system should have features to automatically detect the vehicle number via ANPR based system and show the same on the screen. In case of issues, there should be provision for the operator to enter the vehicle number. The operator should have provision to skip the number entry, if required. However, the system should mandatorily require the input/capture of vehicle number in case the Class has been over ridden.
3.	<p>The system shall have the facility to automatically calculate the fare based on the following details</p> <ul style="list-style-type: none"> - Toll plaza - Class of vehicle - Time of operation - Vehicle weight - Return journey - Cash vehicle entering the ETC Lane (double the Toll amount) <p>It is possible that all the above parameters or a subset among them may be used for fare calculation. It shall be possible to configure the system accordingly during system commissioning.</p>
4.	System should be configurable to configure customized Toll fares at each individual toll plaza for different category of vehicle as per toll guidelines issued from time to time, and automatically push the same to individual Toll Plazas from a central system.
5.	System should have feature to receive the images from various toll plazas and store them at a Central location. The images should be tagged with transaction based on the time stamp and the toll plaza/lane location. The retention period for these images shall be 90 days, or till the dispute (associated with the transaction) is resolved, whichever is higher
6.	System should have the capability to accept the information regarding vehicle overweight (with the Vehicle weight received from the WIM) and add the applicable penalty to the payable amount.
7.	<p>The system should have features to perform the following activities upon receipt of cash by the operator</p> <ul style="list-style-type: none"> - Enter the cash received - Display the change payable - Open the cash register - Print the Toll receipt - Open the Boom Barrier
8.	The System should automatically alert the Lane Operator in case of following issues

D.	Fare Calculations and Toll Operations
	<ul style="list-style-type: none"> - Vehicle is overweight - Vehicle has been Speeding - Vehicle has been highlighted - The vehicle class is different at different plazas
9.	In case the System has issued alerts, the Lane Operator should have option to close the lane and prevent the vehicle from passing. If the above is not possible, then the System should automatically alert designated IHMCL/NHAI officials for necessary actions.
10.	<p>The System should have features to handle following categories of exceptions and calculate fare as per policy specified by IHMCL/NHAI</p> <ul style="list-style-type: none"> - Single Journey/Return Ticket / Daily pass - Monthly Pass - Local vehicle Pass (concessional Toll) - Exempt Vehicle <p>The system should be able to perform the above calculations for both electronic and cash-based payments.</p>
11.	<p>The System should have features to handle Convoy vehicles via the following approach</p> <ul style="list-style-type: none"> - Lane Operator should be required to press the Convoy button to start the transactions - The display boards should display fare as Zero - There should be no receipts for these vehicles - Alert the supervisor regarding Convoy operations - Capture images and videos and mark them accordingly - Continue the operations until the Toll Operator presses Convoy key followed by the 'accept' key, post which the system should resume normal operations
12.	The System should have features to capture details of “run-through vehicles” that pass the Toll Plaza without paying toll. The System should automatically capture images of such vehicles and send to IHMCL/NHAI/relevant authorities at the end of day. The above features should also be available for vehicles that have been classified inaccurately.
13.	System should have the capability to capture the information regarding vehicle overweight by fetching the data from the WIM system (if installed), and add the applicable penalty to the payable amount. The System should also display the word “Over Weight Vehicle” prominently at the lane display.
14.	The vehicle owner/driver should have features to protest the fine and get the vehicle weighed at a static Weighbridge. In case, the vehicle is not overweight at the Static Weighbridge via automatic integration/manual input, the System should display the new amount (after deducting the penalty), and have features to accept the fees. For this purpose, the system shall support a suitably featured user interface on a Desktop computer / Mobile device located at the Static Weighbridge

D.	Fare Calculations and Toll Operations
15.	<p>The System should have features to accept “Towed vehicles”, such vehicles should be processed only via cash. Even if the Vehicle has a FASTag, or electronic payment instrument, the System should not send the transaction for processing. The following steps should be adopted for processing these vehicles</p> <ul style="list-style-type: none">- The Toll Collector Presses Towed Vehicle key- The Toll Collector enters number of vehicles being towed and their class- The System displays the total amount payable- Toll Collector confirms receipt of due amount- Boom barrier is opened- The loop sensors allow Boom Barrier to be opened till the entered number of vehicles have passed

6. Plaza/Lane Management Module

E.	Plaza/Lane Management Module
1.	<p>The Lane management module should have the following features</p> <ul style="list-style-type: none"> • Login/Logout <ul style="list-style-type: none"> ○ Toll Collector/Fee Collector ○ Supervisor ○ Maintenance • Lane Mode /Configuration <ul style="list-style-type: none"> ○ Hybrid Lane (supporting Cash, and ETC) ○ ETC Lane (Dedicated) ○ Cash (Semi-Automatic) • Mode of Operation <ul style="list-style-type: none"> ○ Idle/Closed Mode ○ Open Mode ○ Local Mode <ul style="list-style-type: none"> ▪ Local Mode Without PTMS (Server) ○ Maintenance Mode • Mode of Payment <ul style="list-style-type: none"> ○ Cash ○ Local/Monthly Pass ○ Smart card ○ Barcode/QR code - Multiple/Return journeys ○ Credit card/ Debit Card ○ Wallet ○ FASTag / Electronic mode/Other electronic mode ○ National Common Mobility Card ○ Exempt • Journey Type <ul style="list-style-type: none"> ○ Single ○ Return ○ Exempt <ul style="list-style-type: none"> ▪ Emergency/Authorised Exemption ▪ Non- Emergency/Local Exemption ○ Violation ○ Multiple
2.	<p>The following steps should be performed to complete the login of the Toll Collector</p> <ul style="list-style-type: none"> - The Toll Collector scans his/her card and/or scans the biometric sensor - The Toll Collector enters details of the cash-in-hand before starting operations - The supervisor verifies the above details via biometric verification - System maintains a log of above events and their respective time <p>The lane is tagged as “Under Maintenance”, and no operations are allowed on the same till the above are completed.</p> <p>Post completion of the above steps, the lane operations can resume and the lane</p>

E.	Plaza/Lane Management Module
	mode changes from “Under Maintenance” to “Operations”
3.	<p>The following steps are performed once the Toll Collector finishes the duty, or takes a temporary break</p> <ul style="list-style-type: none">- Toll Collector selects the “Log Off” option and verifies the same via biometric, and/or card input- System puts the lane under “Maintenance Mode” and no operations are allowed- A report is generated of the total cash collected. The report also displays the total cash expected from the Toll Collector- The supervisor accepts the log off activity- The lane remains in “Maintenance Mode” till a new login is performed on the same <p>The System prompts the supervisor to tally the cash collected and automatically adds the above to the total amount to be submitted in the Bank,</p>

7. Plaza Activity Module

F.	Plaza Activity Module
1.	<p>The System should have features to perform the following plaza related activities</p> <ul style="list-style-type: none">• Admin Activity<ul style="list-style-type: none">○ Authorize Staff - to add new staff/add authorization levels○ User Rights - to add/remove/update rights of various users○ User Rights Report - To generate report of various system users and their rights○ Unlock Shift - manually treat shift as complete if the operator has to leave due to emergency○ Release Login - release the plaza from systems' preview as per instructions○ Vehicle Tracking - capture details of vehicles being tagged in the system• The System should have features to ensure that the activities above capture the details of various instructions issued by IHMCL related to the activity.

8. Finance and Accounting Module

8.1 General Requirements

G.	F&A Module - General Requirements
1.	The System should have the provision for not to allow the vehicle to pass in case the funds are not sufficient for operations for dues, or if the tag has been debarred by user/ IHMCL/NHAI.
2.	The System should also create a provision where the above control can be overridden to varying degrees (like part payment accepted, no payment accepted) based on approval received from the appropriate IHMCL/NHAI authority
3.	The System should have a provision for requesting such relaxations for predefined reasons which will then be approved by appropriate authority
4.	The System should have provision to create, edit, delete predefined reasons

8.2 Accounting Requirements

H.	Accounting Requirements
1.	The System should facilitate definition and configuration of the Chart of Accounts (CoA) to capture all financial transactions pertaining to the Operators/User. The CoA should have multiple level and the levels should hierarchical relation i.e. parent-child relationship
2.	Facility for creation, modification and deactivation of CoA should be available
3.	Newly created CoA should be automatically available for payment deposit, payment posting etc.
4.	The System should facilitate the system to automatically transfer the due amount to an escrow account, and transfer the amount to Vendor as per specifications of IHMCL/NHAI.
5.	The System should maintain electronic payment register, cash book, ledger accounts and sub ledger accounts as the case may be for each Operator as applicable
6.	The System should update the payment register as soon as it becomes due and must automatically update the cash book and ledger account for each Operator based on the payment made or reconciliation
7.	The System should capture/post the accounting transaction as per the defined chart of accounts
8.	The System should capture the timing of each transaction
9.	The System should ensure prohibition of CoA use based on the user profile
10.	Facility should provide to adjust the advance with multiple payment head (fully or partially)
11.	During partial payment The System should appropriately handle penalty, interest and fees
12.	The System shall implement mechanisms to split and allocate the total amount received from the User to the respective transactions, if User has paid a lump

	sum /consolidated amounts for multiple transactions together
13.	The System should have capability to handle payment and accounting of each offices separately
14.	The System should automatically post different components (Fee, penalty, tax etc.) of a transaction in respective heads of account
15.	The System should have facility for segregating revenue earned component and tax payable component to enable IHMCL/NHAI to calculate their tax deposit liability
16.	The System should automatically compile the accounts statement and reports at the level of IHMCL/NHAI HQ, Regional Offices, User, Operator, Service Types, etc. for each financial year

8.3 Payment Reconciliation

I.	Payment Reconciliation
1.	The System should reconcile the operations at a toll plaza with ETC amount debited from the customer. The system should automatically issue alerts to the operator and IHMCL/NHAI in case of any issues.
2.	In case of mismatch between debited and demanded amount, the lesser of the two should be highlighted to the Operator for raising disputes, if applicable.
3.	The System should have the facility to capture/upload bank statement/transaction detail from bank's software/web services/External drive etc.
4.	The System should have facility to link its own financial record with the bank transaction record and reconcile the same
5.	Failed reconciliation is to be reported
6.	Facility should be provided for auto reconciliation of batch data or reconciliation by manual selection of payment detail.
7.	Transaction should be posted in cash register once the reconciliation is complete

9. Integration Module

9.1 Financial Partners

J.	Financial Partners
1.	The System should have features to calculate the following details for any Lane/Plaza at any point in time <ul style="list-style-type: none">- Cash issued to the Lane Operator- Cash expected from the Lane Operator (basis vehicles passing through the plaza)
2.	The System should enable designated officials to view the above report and verify if the cash expected was received. The System should also have features to enter number of currency notes/coins' designation received from the Lane Operator and tally the results.
3.	The System should have designated module to enable cash submission at the bank. This module should automatically display number of various currency/note denominations and the total amount to be submitted at the bank.
4.	The System should have features to integrate with the bank statement (excel/xml/csv) and confirm the details of submitted amount versus bank details. The System should automatically flag transactions that do not match, or do have corresponding statement.

9.2 IHMCL/NHAI Systems

K.	Technology Partners
1.	<p>The System should have features to integrate the system with following IHMCL/NHAI Systems</p> <ul style="list-style-type: none"> - Tag registration mobile application <p>In addition, the System should also have capability to integrate (by exposing APIs) with Five (5) additional applications defined by IHMCL/NHAI, subject to the overall transaction volume not exceeding ten (10) times of current load, as a result of the changes.</p>
2.	<p>The interface to the FASTag transaction Acquirer system is implemented on TCP/IP over a public internet. The transaction processing and interfacing with the Acquirer system shall meet all relevant requirements included in the following documents:</p> <ul style="list-style-type: none"> • Procedural Guidelines, National Electronic Toll Collection Network (NETC Network), version 1.7, Jan 2018 • Central Clearing House (CCH) Interface Control Document, version 2.4 (or the current version)
3.	<p>While the present system relies on the Secure File Transfer Protocol (SFTP) for transferring both Vehicle Identification records (Toll Transaction related) to the FASTag Acquirer as well as to receive the Exception (Black) list , Toll & violation Reconciliation records and Discounts related data from the FASTag Acquirer, IHMCL may adopt and specify an approach in the future involving online data transfer (e.g. using an API) or any other approach to enhance performance. The Contractor shall implement this approach in the PTMS as an addition to the existing approach (i.e. SFTP) with an option of either approach to be used by the PTMS operator / Vendor.</p>
4.	<p>The PTMS shall provide secure interfaces via a TCP/IP link (dedicated link / VPN / Public internet) for MoRTH/NHAI/IHMCL authorized remote monitoring systems to acquire data from it in real time.</p> <p>The data required will include all those captured in the PTMS including PTMS lane system performance data, Toll collector performance data, traffic data including Toll Plaza throughput, Transaction data, financial data and all relevant data to determine all aspects of Toll plaza performance including its operational efficiency and effectiveness.</p>

9.3 System Integration

L.	System Integration		
1.	The System should have features to integrate with the following peripherals		
	S. No	Device	Typical connection type from the System (as per specification, or similar solution)
	1	Incident Camera & License plate recognition camera	TCP/IP
	2	User Fare Display	RS 232
	3	Automatic Lane Exit Barrier	Digital I/O
	4	Traffic Light	Digital I/O
	5	Over Head Lane Signal (OHLS) / Canopy Lane Status Display (CLSD)	Digital I/O or data link using RS 232/RS 485 or TCP/IP
	6	Credit/ Debit/ CSC/NFC reader / validator	RS 232 or TCP/IP
	7	AVC system data	Via RS 232 to Lane controller and TCP/IP to the PTMS backend OR Via TCP/IP to both the Lane controller and the PTMS backend
	8	TLC / AVC door status	Digital input
2.	The above interactions should be via secure/encrypted communication protocols.		
3.	The above requirements are indicative, and the System designers can recommend new backward compatible connectivity protocols for the above equipment basis the latest industry protocols/Indian requirements.		
4.	Although the main information transfer in many peripheral devices is only one way (i.e. output) from the PTMS lane system (e.g. OHLS/CLSD, TL, UFD), the PTMS lane system shall support two-way communication and obtain the device status, in as much detail as possible, based on the hardware connectivity / Device driver / communication protocol provided by the device manufacturer/ vendor.		
5.	In general, the PTMS shall communicate adequately to activate all possible		

L.	System Integration
	controls/displays supported by the peripheral device/system and to obtain all possible information provided by the Peripheral device / System.
6.	A non-response of the Device / system over the communication channel shall be tagged as an event and communicated on-line to the PTMS backend. Further the restoration of communication shall also be tagged as an event and communicated on-line to the PTMS backend.
7.	The communication shall be secure to the maximum extent possible supported by the device connectivity.
8.	Loop Failures (related to loop for Presence detection or AVC or barrier) shall be automatically detected.
9.	All such obtained device/ system status information, as detected and captured above, shall be transferred on-line to the PTMS backend.

10. Employee Module**10.1 System Configuration**

M.	Configuration Dashboard
1.	The System must support Role-based access for administrators and users.
2.	The System should have facility for creating/editing/deleting Vehicle category, toll rates, plaza contracts, employee assigned, etc. so that the same may be used for toll calculations
3.	The System configuration module should be accessible only to a selected group of users across each department and office
4.	Every update in the System configuration should require approvals from a user at least one level above the updating user. All the changes should also be available for audit purposes.
5.	By default, the System should populate the related fields of a form if one parameter is selected, therefore list of meta data should be created for all possible fields
6.	The System should have facility for creating/editing/deleting fee rates for various services rendered by IHMCL/NHAI
7.	The System should keep history of year wise fee rate and facilitate automatic calculation of fee for a given year for a given service
8.	The System should have facility for creating/editing/deleting various rate of penalties or interests relating to specific service, time period etc.
9.	Facility for multiyear fee, penalty and interest calculation should be provided considering variable rate for multiple year
10.	The System should have facility for creating/editing/deleting Account Head or Chart of Account (CoA)
11.	The CoA should have hierarchical relation between its various levels
12.	Facility for creating relation between CoA and services/fees should be provided
13.	The System should have facility for creating/editing/deleting document list required for various application type/service type and the minimum information that needs to be captured in the Form for each of the applications
14.	The System should facilitate creation and modification of workflows related to activities like changes in new plaza, updates in fare rules, modification in issuer banks list, etc.
15.	The System should have facility for creating/editing/deleting various roles, users etc. for System use
16.	The System should have facility for creating/editing/deleting linkages between roles, users, workflow etc.
17.	The System should have facility for creating/editing/deleting tasks and linking/assigning the same with roles/users
18.	Facility should be there for assigning, reassigning, activating, deactivating etc. for various task, users and roles
19.	The System should have facility for creating/editing/deleting list of standard comments/reasons and facility to link it with various task/workflow etc.
20.	The System should facilitate definition, configuration and criteria setting for

M.	Configuration Dashboard
	the key events and related alert or messages
21.	The System shall facilitate making necessary changes to the existing structure for fee, fines and other charges based on the revisions in the policy
22.	The System should have facility to define and configure exemptions, rebates, special cases etc. for various transactions and also for financial matters
23.	During various processes/operation in the System, these exemptions, rebates should be automatically considered
24.	The System should provide provision for creating, editing, deleting various type of commissions for different transactions
25.	The System should have facility for creating vendor/contract users and their commission for different type of transactions
26.	The System must maintain an audit trail of all updates in the meta data
27.	The System shall require following additional security mechanisms for following categories <ul style="list-style-type: none"> - One-time password for critical approvals (for example updating the toll rates) - Digital signatures for senior management

10.2 Workflow Approvals

N.	Workflow Approvals
1.	The System should facilitate creation and modification of workflows
2.	Facility should be there for assigning, reassigning, activating, deactivating etc. for various task, users and roles
3.	The System should have facility for creating/editing/deleting various roles, users etc. for The System use
4.	The System should have facility for creating/editing/deleting linkages between roles, users, workflow etc.
5.	The System should have facility for creating/editing/deleting tasks and linking/assigning the same with roles/users
6.	Definition of transactions should include issuing unique identification code to the transaction, name of the transaction, brief description of the transaction, etc.
7.	The System shall facilitate definition of master list of transactions under the respective service types
8.	The System shall facilitate definition and configuration of mandatory transactions from the master list of transactions including its periodicity
9.	The System should enable many-many relationship between various activities, roles and users.
10.	The System should have facility for re-assigning any task to other relevant user from the front-end GUI to handle absence of any user on a particular day
11.	The System should have facility for creating/editing/deleting list of standard comments/reasons and facility to link it with various task/workflow etc.
12.	The System should facilitate definition, configuration and criteria setting for the key events and related alert or messages

N.	Workflow Approvals
13.	The System should enable linear as well as parallel approvals.

10.3 IHMCL Dashboard

O.	IHMCL Dashboard
1.	The System shall have an online work space for each of the designated employee within IHMCL/NHAI.
2.	The entry to the dashboard should be via employee id and password.
3.	For certain employee categories, The System must only allow entries to machines that have a security certificate installed on the machines.
4.	The System should automatically require password reset after 90 days.
5.	<p>The dashboard shall present the following information to employees by pushing relevant information from Plazas to a central system</p> <ul style="list-style-type: none"> • Different disputes/issues regarding payment reconciliation • Role base hierarchical dashboard. • Status of ETC toll plazas across various tolls plazas under the jurisdiction of the employee. The status should display the following information, at a minimum <ul style="list-style-type: none"> ○ Plaza Name ○ Number of lanes ○ Lanes where ETC equipment is not functional ○ Lane-wise name of the non-functional equipment ○ Contact details of following - Vendor and IHMCL/NHAI employee • Integrated Dashboard to monitor real time cash collection across different toll plazas along with ETC transaction. • Reporting dashboard with (at least) following reports <ul style="list-style-type: none"> ○ Revenue target vs. actual revenue generated ○ Plazas with maximum issues with ETC lanes ○ Resolution time for the ETC issues. • The reporting dashboard should have a hierarchical integration. For example, supervisor should be able to see reports for all reporting employees at an individual and aggregate level • Following additional reports should be available for senior management across with option to split the same across department/plaza operator/region <ul style="list-style-type: none"> • Revenue targets vs. actual collection across ROs/PIUs • Override reports across offices • The management dashboard should also be hierarchical and allow senior management at Central office to view reports across all offices, while

O.	IHMCL Dashboard
	<p>regional offices should be able to see only their data. Similarly, the views of department heads should be restricted to their departments.</p> <ul style="list-style-type: none"> The management dashboard should have option to select any/all of the following items and generate the report(s) <ul style="list-style-type: none"> time, office, revenue, transaction type, vehicle type, User Type, Plaza Operator, HETC Equipment, Account Heads The dashboards should have easy to use Graphical User Interface to customize reports and make comparisons. The dashboard should also display KPI adherence for all the KPIs defined under the provision of Operation and Maintenance, for identified IHMCL/NHAI users.
6.	The dashboard must have facility to generate on-demand reports based on criteria defined above.
7.	The dashboard must have facility to enable identified users to download data for archival purpose in an easy to use format (for example excel).
8.	The dashboard should also have the facility to define the frequency of report generation and the intended recipients. The System should then automatically email the reports to defined users.
9.	The System should have facility to allow only certain IP addresses to access some sections of the solution
10.	The System should highlight tasks that have allocated to IHMCL/NHAI officials via a pop-up window. They should have option to act on task, or postpone for later. For tasks that have not been acknowledged within a time-frame, The System should highlight details to supervisor for reallocation.

10.4 System Dashboard

P.	System Dashboard
1.	The System shall have a System Dashboard for defined class of IHMCL/IHMCL/NHAI users. The System Dashboard should allow users to change the system configuration as per requirements/legislative changes.
2.	The entry to the dashboard should be via employee id and password.
3.	For System Dashboard access, The System must only allow entries to machines that have a security certificate installed on the machines.
4.	The system dashboard should allow for editing of following Toll plaza details -

P.	System Dashboard
	<ul style="list-style-type: none"> - Add a new toll plaza - Change the number of lanes - Change the ETC lanes - Change the Toll Operator - Delete the toll plaza - Edit the mapping between plaza and rates
5.	<p>The system dashboard should allow for editing of following Vehicle Class details</p> <ul style="list-style-type: none"> - Add a new Vehicle Class - Drop a vehicle class - Change the rates associated with the vehicle class
6.	<p>The system dashboard should allow for editing of following Toll Operator details - Add a new Toll Operator</p> <ul style="list-style-type: none"> - Assign a Plaza to Operator - Drop the Plaza from Operator
7.	<p>The system dashboard should allow for editing of following Employee details -</p> <ul style="list-style-type: none"> - Add a new Employee - Assign a Plaza to Employee - Drop the Plaza from Operator

11. Reporting Module

11.1 Revenue Reports

Q.	Revenue Dashboard
1.	<p>The System should have module to generate the following reports, but not limited to: -</p> <ul style="list-style-type: none"> • Shift Collection Report • Manual/Cancel Report • Till Time Collection report • Periodic system collection Report • Transaction Report • Periodic Transaction Report • Day Collection Report • Discrepancy Transaction Report • ETC Collection <p>System should also have features to automatically integrate the above reports, or to dissect the same at a plaza/project/PD level.</p>

11.2 Other Reports

R.	Other Dashboard
1.	<p>The System should have module to generate the AVC reports</p> <ul style="list-style-type: none"> • AVC comparison/Accuracy Report • AVC Traffic count Report • Back up AVC Transaction Report
2.	<p>There should be features to generate the following Traffic reports</p> <ul style="list-style-type: none"> • Lane Wise Report • Class Wise Report • Traffic Count Report • Traffic count summary Report • Monthly Traffic Report
3.	<p>There should be features for following Event reports</p> <ul style="list-style-type: none"> • Day Violation Report • User Activity Report • Exempt Vehicle Report • Cash collection in FASTag exclusive lanes • Total ETC Collection • Total Cash Collection • Simulation History Report • Exemption Report
4.	<p>There should be features for following Audit Reports</p>

R.	Other Dashboard
	<ul style="list-style-type: none"> • Audit Transaction Report • Post Audit Collection Report
5.	<p>There should be following WIM reports in the system</p> <ul style="list-style-type: none"> • Overweight Revenue Report • Overweight Amount Summary Report • WIM Transaction Report • SWB overloaded Transaction Report • WIM Transaction Vs SWB Report • WIM data received Report
6.	<p>The system should have features for following ETC reports</p> <ul style="list-style-type: none"> • Acquirer File Upload Download Details Report • Acquirer File Transaction Report • ETC Transaction Report • PTMS CCH Transaction Reconciliation Report • Transaction Vs missing Reconciliation Report • Vehicle number wise ETC Transaction Report
7.	<p>The system should have features to automatically track the status of various equipment at the plazas/lanes on an hourly basis</p>
8.	<p>The system should have features to automatically report all the above reports to authorized representatives/IT systems in IHMCL/NHAI.</p>
9.	<p>The system should be customizable to include any of the following incidents in the reports:</p> <ol style="list-style-type: none"> 1. Date / hour change 2. Hybrid lane open 3. Dedicated/FASTag Exclusive lane open 4. Lane closed 5. Invalid toll collector 6. Tariff change 7. Lane into maintenance mode 8. Lane out of maintenance mode 9. Vehicle detected without collector classification (run through) 10. Vehicle discrepancy 11. Time exceeded for vehicle exit from lane 12. Classification cancelled [for toll collector, lane] 13. Vehicle reclassified 14. Extra receipt printed

R.	Other Dashboard
	<ol style="list-style-type: none"> 15. TLC enclosure opened [sound buzzer] 16. TLC enclosure closed 17. Low disk space warning on TLC 18. Low disk space warning on PTMS related server 19. Low disk space warning on local drive 20. Insufficient memory warning on PTMS related server 21. Loss of communication with PTMS lane system (specific TLC/AVC) 22. Communication with PTMS lane system re-established specific 23. TLC/AVC) 24. Loss Communication with specific PTMS backend server 25. Communication with PTMS lane system re-established 26. Change of TLC mode without permission 27. Equipment failure: Sensor 1 28. Equipment failure: Sensor 2 29. Equipment failure: exit barrier 30. Equipment failure: AVC 31. Equipment failure: etc. for all equipment 32. Database corrupt [all database] 33. Toll collector confirmed bleed-off 34. Vehicle without valid FASTag detected in the toll lane 35. Panic alarm initiated 36. Shift opened 37. Shift closed 38. Change in toll collector database 39. Change in user access level 40. FASTag unreadable 41. FASTag in Exception List 42. Failure reading tariff table 43. Toll collector login 44. Toll collector logout 45. Run through violation 46. Class discrepancy - Over-classification 47. Class discrepancy - Under-classification

R.	Other Dashboard
	<p>48. Pass back of any vehicle (any vehicle passing through the Toll plaza in the same direction within in a pre-defined time period)</p> <p>In addition to the above, IHMCL/NHAI can design/make any activity to be an incident in the PTMS and get its status/reports.</p>

PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS

1. INTRODUCTION

The Minimum Performance Specifications and Standards (MPSS) covered in the following section outlines the minimum technical specifications required for meeting the scope of the System during the Operations & Maintenance Period. It is further expected that the Vendor shall comply with and include common or industry best practice and standards, in addition to the standards defined in the succeeding sections.

The document consists of the following sections:

- System Availability;
- System Performance; and
- System Management.

Each section below has specific Key Performance Indicators (KPIs) that the Vendor shall comply with. It also covers the KPI Deductions associated with non-compliance of the IT Systems' specifications.

The System of KPI Deductions shall be consolidated, and non-compliance in two KPIs, for example, would lead to KPI Deductions for both the KPIs separately. However, in no case, shall the accumulated KPI Deductions for a month exceed the deductions as defined under total KPI deductions. Failure to meet the KPIs may result in Termination of the Concession Agreement in the event certain thresholds have been breached by the Vendor.

2. OPERATION AND MAINTENANCE MPSS

2.1 System Availability

System Availability is defined as the percentage or ratio of time the System is functional versus the total time it is expected to be functional. The Contractor shall ensure that the System Availability meets the Key Performance Indicator (KPIs) in accordance with the MPSS.

The Vendor shall subscribe to services of System Availability monitoring software that shall help monitor the performance across various parameters automatically on a real-time basis. The chosen System Availability monitoring software shall, at a minimum, comply with the following requirements:

- Tracking: 24 hours, 7 days per week
- Frequency: 1 minute
- Supported Protocols: HTTP, HTTPS, SMTP., POP3, DNS, FTP and other Ports
- Alert via: Email, and SMS
- Reporting: Ability to automatically generate daily, weekly, monthly, quarterly and yearly reports
- Availability at Toll Plazas/Lanes/Data Centre.

The Vendor shall also maintain an exclusive helpline and a website link for office users to report the issues that they are facing. The helpline shall also have the capability to automatically generate reports regarding the time taken to fix the issues and email the same to concerned users.

The System Availability monitoring software and the helpline shall be configured by the Vendor; However, IHMCL designated employees will have exclusive access to the reports generated by the software, while the Vendor's employees shall have read-only access, to ensure neutrality in measurement. The following sections cover the details regarding the above mentioned KPIs, and the KPI Deductions associated with non-compliance.

2.1.1 KPI 1: SYSTEM AVAILABILITY

Definitions

System Availability is defined as the ratio of System uptime measured at Data Centre, or at individual Plazas, (in hours, for a given Working Day) over the total hours in a day (the “total hours” defined as 12:00:00 AM to 11:59:59 PM), on any given Day. The Contractor shall ensure that the System Availability for any day does not fall below service levels of 99.5%.

Measurement

The Service Availability KPI shall be tracked by the System Availability monitoring software for the Project. The details of the software have been captured in the preceding sections.

The following formula shall be used to calculate the System Availability at Data Centre, or at Toll Plazas:

$$\text{System Availability} = \frac{\text{Availability during a day (in hours)}}{24 \text{ hours}} * \text{Impact Factor}$$

In case the System Availability is operational during fraction of an hour, the same shall be converted to decimal and treated accordingly.

The Impact Factor shall be calculated as per following formula

- System not available at Central Data Centre = 1
- System not available at ‘n’ number of Toll Plazas, but available at Data Centre = n/Total Number of Toll Plazas

If the System is not available at any lane within a Toll Plaza, it shall be treated as unavailable for the particular Toll Plaza.

3.19.1 KPI 1 Deduction

In case the System Availability falls below 99.5% for a *day*, the penalty shall be calculated as per the following formula. Penalties for all errant days in a quarter shall be aggregated to compute the total KPI penalty in the quarter under this KPI.

$$\text{KPI 1 Penalty} = \text{Daily Payment} * \text{System Availability}$$

$$\text{Where Daily Payment} = \frac{\text{Quarterly O\&M Payment} / 3}{\text{Number of calendar days in the particular month}}$$

2.2 System Performance

System Performance refers to the performance of System with regards to system capacity, and performance. The Contractor shall ensure that the System Performance meets the Key Performance Indicators (KPIs) in accordance with the MPSS.

The Vendor shall install specialized software, or subscribe to services, that help monitor the performance across various parameters automatically on a real-time basis. The chosen system performance monitoring software shall, at a minimum, comply with the following requirements

- Tracking: 24/7
- Frequency: 1 minute
- Supported Protocols: HTTP, HTTPS, SMTP., POP3, DNS, FTP and other Ports
- Alert via: Email and SMS
- Reporting: Ability to generate reports on defined frequency (Daily, Weekly, Monthly Quarterly and Yearly reports), and on-demand.
- Performance at Toll Plazas/Lanes/Central Level

The subsequent sections define the measurement strategy for these KPIs, and the KPI Deductions associated with the KPIs, if any. It is also imperative to note that even in case of no penalty, the Vendor shall strive to perform a causal analysis, and fix the issues, especially if the issues are repeated over certain specific time intervals.

2.2.1 KPI 2: SYSTEM RESPONSE TIME.

Definitions

System Performance is defined as the capacity of the System to meet the required standards, at the Defined Load Levels, over the total hours in a day (the “total hours” defined as 12:00:00 AM to 11:59:59 PM), on any given Day. It is imperative that the System is able to process a transaction starting from receiving of FASTag signal from Toll Plaza to the desired action at the Toll Plaza in less than one second.

Measurement

The System Response Time KPI shall be tracked by the following measures:

- By accessing the performance logs from system performance monitoring software executed on hourly basis during office hours for defined load.
- By time taken in issue closure reports tracked via reports that track issues logged by Plazas/IHMCL employees.

The System Response Time shall be tracked by logs of the system performance monitoring software, and keeping a count of the number of incidents when the IT System performance falls below the threshold.

KPI 2 Deduction

KPI 2 Deductions (for a day) = (Number of System Response Breaches/Total Number of Tests)
** Daily Payment*

Where *Daily Payment* =
$$\frac{\text{Quarterly O\&M Payment}/3}{\text{Number of calendar days in the particular month}}$$

Number of System Response Breaches is defined as number of instances when the response time does not meet the Expected Response Time defined above.

Total Number of Tests is defined as number of instances when the System performance was tested randomly during the day, at every six (6) hours during the day either via performance logs, or via generated reports², while excluding the tests that were carried out during the Application downtime for Authorised Users and attracted KPI 1 Deduction.

Daily Payment for a particular month =

$$\frac{\text{Quarterly O\&M Payment} / 3}{\text{Number of Days in that month}}$$

To calculate the total KPI Deductions, the daily KPI Deductions shall be aggregated and reduced from Quarterly O&M Payments.

² In case of issue reported via NHAI users; the breaches shall be counted as number of subsequent hourly System Performance tests that the test fails

2.3 KPI 3: Issue Resolution

Definitions

Issue Resolution is defined as the capacity of the System, or the Vendor, to resolve issues raised by the IHMCL management or Toll Operator regarding mismatch in data captured by System, and ground data.

Measurement

The System Response Time KPI shall be tracked by the following measures:

- By accessing the issues raised by IHMCL employees in their portal
- By time taken in issue closure reports tracked via the System

The System Response Time shall be tracked by logs of the system performance monitoring software, and keeping a count of the number of incidents when the IT System performance falls below the threshold.

KPI 3 Deduction

*KPI 3 Deductions (for a month) = Min ((Median ($\sum_{i=1}^j Di$)/72) * Monthly Payment),0)*

Where

- *Di is "Issue Resolution Time" or the number of hours between issue raising and issue resolution.*
- *j represents the number of issues resolved during the month*
- *Monthly Payment = Quarterly O&M Payment / 3*

The deductions for all the month of a quarter shall be aggregated for computing the total penalty in the quarter for this KPI.

2.4 System Management

System Management is defined as the set of activities that need to be performed to ensure that the System adheres to the defined performance standards. The Contractor shall ensure that an industry standard IT management framework - e.g. ITIL V2 or V3, or ISO 20000 standard- or a proprietary or non-proprietary equivalent, is implemented to manage service support and delivery.

Application Maintenance shall refer to ensuring that the System application is in line with the current business requirements of the Grantor.

The Contractor shall ensure that the Application Maintenance shall adhere to the following principles:

- a. Capacity management: monitor IT capacity utilization and match IT capacity to current and forecasted business needs.
- b. Test management: prior to implementing the updates, the System must undergo appropriate testing i.e., unit testing, user acceptance testing, stress testing, etc.
- c. Availability management: monitor IT availability and undertake corrective measures in case service levels are not met.

- d. Continuity management: define and maintain actions & processes to restore IT services in case of disasters. Disasters can be man-made or force majeure (e.g. labour strikes, earthquake, flooding).
- e. Service level management: define and maintain the service catalogues in line with business needs.
- f. Security management: identify security threats and vulnerabilities and take corrective actions in case of realistic risk exposure.

2.4.1 KPI 4: APPLICATION MAINTENANCE

Definition

Application Maintenance shall refer to ensuring that the Application is in line with the current business requirements of the Grantor.

Measurement

The service levels of Application Maintenance shall be tracked via Change Requests (CR). The Vendor shall maintain an exclusive link within IHMCL Dashboard to record System CR and deploy incident management software to track the same.

The CRs shall be classified on the basis of following definitions:

Category	Description
Emergency	The change must be implemented immediately, (for example, termination of services at any toll plaza, or updating the toll rates at any toll plaza).
Standard	The change can be implemented via pre-defined process, or procedures, (for example, defining a new vehicle class once it has been approved via legislations).

A CR shall be deemed as initiated once the details have been reported by the IHMCL official, and shall be treated as closed once the changes have been implemented by the Vendor.

The Vendor, by means of appropriately trained support staff and system processes, shall ensure that the CR resolution levels adhere to the following standard:

Category	Acceptable Resolution time (working hours: 8:00 AM - 6:00 PM)
Emergency	30 minutes
Standard	4 hours

KPI 4 Deductions

In case of non-compliance with the service levels, the KPI Deductions shall be calculated as per following formula for every breach:

In case the System Management Standards do not adhere with the defined service levels, the KPI penalty for a particular day shall be calculated as per the following formula

KPI 4 Penalty

$$\begin{aligned} &= \text{Daily Payment} * (\text{Number of Working Days to solve the issue}^3 \\ &\quad - \text{Number of Working days as per service levels to fix the issue}^4) \end{aligned}$$

Penalties for all errant days in a quarter shall be aggregated to compute the total KPI penalty in the quarter under this KPI.

³ If the service levels are defined in minutes, or hours, the same shall be translated in corresponding days.

⁴ If the service levels are defined in minutes, or hours, the same shall be translated in corresponding days.

3. TOTAL KPI DEDUCTIONS

The penalties across various categories discussed in the preceding sections shall be aggregated to compute the total penalty (“Total Penalty”) that shall be deducted from the total quarterly payments. However, the levied penalty (“Levied Penalty”) for any quarter shall not exceed 10% of the total Quarterly O&M Payment for the month.

4. TERMINATION MECHANISM

If the Total Penalty exceeds ;50% of the Quarterly O&M Payment for any quarter, IHMCL may adopt the following measures

- i. Notice to the Vendor regarding unacceptable system performance and to fix the system by ensuring the Total Penalty does not exceed 25% of Quarterly O&M Payment for the next quarter within a period of 15 days (“Curing Period”)
- ii. If the Vendor is not able to bring the system as per specifications within the Cure Period, IHMCL/NHAI reserves the right to terminate the Contract with the Vendor as per conditions agreed in the Concession Agreement, including but not limited to forfeiture of PBG (without intimation), Blacklisting, etc.

PART - VI: CONDITIONS OF CONTRACT

6.1 CONDITIONS OF CONTRACT

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

6.2 GOVERNING LANGUAGE

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

6.3 APPLICABLE LAW

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

6.4 Project Scope

The scope of project shall include activities as specified in Appendix 1 of the document.

6.5 INTERPRETATION

In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Bidders are expected to examine all terms and instructions included in the RFP Document. During preparation of the proposal, the bidders shall make their own assessment of staff to undertake the assignment.

6.6 RIGHT TO AMEND PROJECT SCOPE

IHMCL retains the right to amend the Project Scope without assigning any reason at any time during the Contract Period. IHMCL makes no commitments, express or implied, that the full scope of work as described in this RFP will be commissioned.

6.7 PAYMENT TERMS

- a) Payments will be made in Indian Rupees only as per conditions specified in the RFP under Section 3.13 Payment Terms.

6.8 SLA/ PENALTY

- a) The Vendor shall ensure that the system adheres to the SLAs as specified in PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS

6.9 PRICES

- a) GST as applicable, which will be levied on the goods and services invoiced by the Service Provider to IHMCL, will be reimbursed on actual basis.
- b) IHMCL reserves the right to ask the Service Provider to submit proof of payment against

- any of the taxes, duties, levies indicated.
- c) All payments shall be made subject to adjustment of applicable damages.
 - d) No amount or cost shall be payable for holding discussion, as considered necessary by IHMCL, for any purpose with IHMCL's Officials at IHMCL's Head Office or elsewhere, prior, during or after the conduct of an assignment.
 - e) Prices quoted by the bidder shall be excluding GST and fixed for the entire Contract period.

6.10 System Development Period

The Vendor is required to develop the System within a period of four (4) months ("System Development Period"), from the Date of Signing of Contract Agreement. The key milestones within this period include:

Milestone	Deliverable	Time Period
Requirement Gathering	<ul style="list-style-type: none"> System study report Interface requirements document 	30 days from date of issuance of Letter of Commencement, or signing of Contract Agreement, whichever is earlier.
System Design	<ul style="list-style-type: none"> High Level Design (HLD) document Software Requirement Specifications (SRS) Data base architecture document User Acceptance Testing (UAT) scripts 	45 days from date of issuance of Letter of Commencement, or signing of Contract Agreement, whichever is earlier.
System Development	<ul style="list-style-type: none"> System ready for UAT testing for 10 days Unit testing results Integration testing script capturing the implementation approach for System rollout at identified plazas Pilot Testing at One Plaza as specified by IHMCL Appendix 2 - Plaza Details 	100 days from date of issuance of Letter of Commencement, or signing of Contract Agreement, whichever is earlier.
System Testing	<ul style="list-style-type: none"> UAT testing results Integration testing results capturing the System rollout at identified plazas 	120 days from date of issuance of Letter of Commencement, or signing of Contract Agreement, whichever is earlier.

The Vendor is required to obtain approval from IHMCL for each stage before proceeding to the next stage. While the IHMCL management shall endeavour to provide approval for each

stage within five (5) days of submission of documents, the System Development Period for subsequent phases shall be extended by the number of days taken in approval - Five days. In case the development period of any stage exceeds the defined period by Ten (10) days, IHMCL may issue notice to the Vendor to ensure that the work is completed within the next Five (5) days, failing which the IHMCL shall be entitled to forfeit the PBG or demand and recover the damages from any other legal right that may have accrued to IHMCL.

6.11 Concession Period

The total Concession Period ("Concession Period") of the Project is 64 months including 4 months of System Development period as defined in the preceding sections.

The Project shall have an Operations and Maintenance period (O&M) post the System Development Period during which the Vendor shall be paid as per Availability Based Payments quoted in the Bidding document. Also, in case of delays in System Development the O&M shall not be extended beyond the 64 months period from issuance of LoA.

Upon completion of 64 months, IHMCL may consider extending the engagement on yearly basis up to a maximum of 5 years from the date of signing of Contract Agreement with rates quoted by the Bidder in the **Annexure 10: Format for Financial Bid Submission**, subject to Bidder adhering with the conditions specified under PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS.

6.12 INSURANCE

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

6.13 ACCESS TO DATA

- a) The Vendor must provide the Grantor access to any part of Grantor's Data, including any raw data in the possession of the Vendor, at any time upon the Grantor's request.
- b) The Grantor may use the Grantor's Data or any part thereof (including any Grantor's Data obtained, developed, processed, adapted, modified or created by the Vendor) for any purpose or reason it requires, at its absolute discretion.
- c) The Vendor shall maintain appropriate administrative, physical, and technical safeguards for protection of the security, confidentiality and integrity of Grantor's Data. The Vendor shall not
 - i. modify Vendor Data,
 - ii. disclose Vendor Data except as compelled by law in accordance or as expressly permitted in writing by Vendor.
- d) Grantor will own all the data of PTMS and the agency will provide database backup copy to Grantor once a week to Grantor's data centre. The Vendor acquires no right, title or interest from Grantor to Grantor's Data, including any Grantor's intellectual property rights therein.
- e) Notwithstanding any other provision of this Concession Agreement, the Vendor's obligation to provide on-going free access to the Grantor's Data, and the Grantor's entitlement to use the Grantor's Data for any reason it requires, is absolute and unconditional. The Vendor must not refuse, prevent or hinder the Grantor's access to the

Grantor's Data at any time during the Concession Period. The Vendor is not entitled to request payment or set off any amount in relation to access to the Grantor's Data, regardless of any claims by the Vendor against the Grantor under or in connection with the Concession Agreement (whether for any part of the Balancing Payment or otherwise) or any Dispute.

6.14 PRIVACY

- a) The Vendor must ensure that if it collects, uses, discloses, transfers or otherwise handles Personal Information in the course of providing the Project it complies with:
 - i. all applicable Privacy Laws (including all Privacy Laws that provide for specific requirements in relation to cross-border information transfer, which the Vendor must comply with); and
 - ii. Grantor customer privacy and data protection policies and standards as notified to the Vendor by the Grantor from time to time in writing.
- b) 11.1.2 Where the Vendor appoints a Data Centre Operator, the Vendor must ensure that the Data Centre Operator shall comply with all applicable Privacy Laws in the course of its performance of obligations under the Data Centre Agreement.

6.15 VIRUS/DISABLING CODE

- a) The Vendor must use its reasonable endeavours to ensure that no Virus is introduced into:
 - i. the IT System; or
 - ii. Grantor's Environment,and provided that this obligation includes the Vendor implementing, utilising and maintaining (including by maintaining the currency of) methods, processes, applications, tools and procedures used for the detection, avoidance and elimination of such Viruses which are consistent with Prudent Industry Practice.
- b) The Vendor must:
 - i. implement and maintain (including by maintaining the currency of) market-leading virus detection, intrusion detection and data loss prevention systems, as well as appropriate access control systems and processes to limit access to data and prevent hacking in accordance with the PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS; and
 - ii. continuously monitor the outputs of the virus detection, intrusion detection, data loss prevention and access control systems and respond appropriately and be consistent with Prudent Industry Practice to the same (including implementing measures to address such instructions or data losses within the prescribed periods), log the results of that monitoring and maintain those logs.
- c) If a Virus is introduced by the Vendor or its Personnel as a direct or indirect result of non-compliance with this Section, the Vendor must, at no additional charge and without limiting any rights the Grantor may have in relation to such introduction, assist the Grantor in eliminating the Virus, in reducing the effects of the Virus and in mitigating any loss of operational efficiency or loss or corruption of data caused by the Virus or its elimination by restoring all data to the last available back-up. The Vendor's obligations and liabilities under this Section are without prejudice to any other rights or remedies available to the Grantor, whether under this Concession Agreement, at law or otherwise.

- d) The Vendor undertakes it will not insert any Disabling Code, or any security back door, into any software provided or used by the Vendor or Subcontractors in performing the Project or O&M, or providing the IT System. In respect of Disabling Code, or any security back door, that is embedded in any third-party software, the Vendor must not invoke such Disabling Code, or security back door, at any time without Grantor's prior consent.

6.16 OPEN SOURCE SOFTWARE

- a) The Vendor must ensure that:
 - i. the Open Source Software incorporated in the IT System must be approved by the Grantor in writing; and
 - ii. the IT System does not insert any Open Source Software into Grantor's Environment except to the extent otherwise approved by Grantor in writing.
- b) Where Grantor gives their approval in relation to the use of any Open Source Software under this Section:
 - i. the Supplier must ensure that the use of that Open Source Software will not result in an obligation to disclose, license or otherwise make available any part of Grantor's Environment, Grantor's Data or Grantor's Confidential Information to any third party; and
 - ii. the use of that Open Source Software will not in any way diminish the Vendor's obligations under this Concession Agreement, including in relation to any warranties, indemnities, support obligations or any provisions dealing with the licensing or assignment of Intellectual Property Rights.

6.17 INFORMATION RISK MANAGEMENT

- a) The Vendor must:
 - i. prepare a draft information risk management plan for Grantor's approval which plan must, at a minimum, address the following matters relating to the mitigation of information risks and the impacts of the occurrence of such risks (noting that the plan may cross refer to other plans, policies and procedures required to be implemented and maintained by Grantor under this Concession Agreement (e.g., the Business Continuity and Disaster Recovery Plan)):
 - a. appropriate IT security policies and procedures, personnel policies (such as mandatory password change requirements), and device level (e.g. bring your own device) policies;
 - b. the development and implementation of operations and procedures aligned with regulatory and contractual commitments (including the absorption of any specific commitments as may be agreed on an ad hoc basis with customers);
 - c. the development and implementation of effective compliance training and personnel education processes to foster an environment in which the crucial importance of effective data management and security is understood;
 - d. on-going monitoring of compliance with policies and required attendance at training;
 - e. an internal feedback loop which ensures that in the event of major change in underlying requirements, the impact of change is addressed in relevant

- policies and processes;
- f. vendor management processes which involve strong and effective governance, which include gateway reviews on compliance with mandatory security and other contracted requirements, and which result in audit rights being exercised on a regular basis to periodically confirm compliance, e.g.: management and governance processes implemented in relation to external vendors, including specified frequency and measures to monitor compliance with their contractual obligations;
- g. details of any policies, systems (including technologies) and processes in place to ensure that any third-party providers of infrastructure services cannot access information stored on or passing through that infrastructure unless authorised;
- h. details of offshoring and/or outsourcing policies and standards to which it has reference when engaging external vendors (if any specific policies and standards have been developed over and above existing business policies etc.);
- i. an incident response plan for specific data breach or security issues and a process for periodic review and updating of the plan. Such incident response procedures must be regularly tested, and changed where necessary (and tested when any significant changes to business operations occurs e.g. following changes in the legislative regimes to which the entity is subject, such as may arise if mandatory data breach notification amendments are made to the Privacy Laws or changes which may be requested where additional business functionality is acquired and available to customers). A post incident review must also be performed and documented following any significant security incident;
- j. Business Continuity and Disaster Recovery Plans and facilities (which are tested regularly); and
- k. adoption of relevant quality assurance standards;
- ii. provide to the Grantor the draft information risk management plan contemplated by this Section within ten (10) days after the Signing Date;
- iii. incorporate the reasonable comments and suggestions of the Grantor in the draft information risk management plan. Once approved by the Grantor in writing (which approval will not be unreasonably withheld or delayed), the draft information risk management plan will be the Information Risk Management Plan (Information Risk Management Plan).
- iv. implement and comply with the Information Risk Management Plan; and
- v. update the Information Risk Management Plan on an annual basis within sixty (60) days after the anniversary of the Signing Date and the Grantor review in accordance with the Review Procedure and approval processes contemplated in this Section will apply to each updated plan. Until such time as any updated Information Risk Management Plan is approved by Grantor, the Vendor must comply with the then-current Information Risk Management Plan.

6.18 OWNERSHIP & USE OF GRANTOR'S DATA

- a) All Grantor's Data and all Intellectual Property Rights in the Grantor's Data (including future Intellectual Property Rights) are and will remain the property of the Grantor.
- b) The Vendor must:

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- i. not use Grantor's Data for any purpose other than directly in relation to the performance of its obligations under this Concession Agreement;
 - ii. not, and must ensure that its Personnel do not, sell, commercially exploit, let for hire, assert a lien over, assign rights in or otherwise dispose of any Grantor's Data;
 - iii. to the extent Grantor's Data is within the control of Vendor Personnel, ensure that such Grantor's Data is kept Physically Separate or Logically Separate to data processed or utilised by the Vendor on its own behalf or on behalf of any other third party if applicable, and to the extent permitted under the Concession Agreement. In this Concession Agreement, "Physically Separate" means separate storage devices with access control user-ID and "Logically Separate" means separate database schemes and separate disc volumes/ partitions;
 - iv. to the extent Grantor's Data is not Physically Separate, provide the infrastructure design for the storage for such Grantor's Data to the Grantor for the Grantor's approval provided that any such approval is not unreasonably withheld and does not limit, excuse or relieve the Vendor from its obligations under this Concession Agreement;
 - v. not make any Grantor's Data available to a third party other than:
 - a. a Subcontractor and then only to the extent necessary to enable the Subcontractor to perform its part of the Vendor's obligations under this Concession Agreement and provided that the respective subcontract includes an obligation to comply with Grantor customer privacy and data protection policies and a back to back indemnity in relation to safe guarding Grantor's Data; or
 - b. any other third-party agency authorised by the Grantor;
 - vi. not commercially exploit Grantor's Data. Without limiting the foregoing, the Vendor must not perform any data analytics, anonymization, data segmentation or similar activities using the Grantor's Data, whether for the Vendor's own internal purposes or for third parties, without the Grantor's prior written approval; and
 - vii. not make copies of Grantor's Data other than for the purposes of the performance of its obligations under this Concession Agreement.
 - viii. Safeguarding Grantor's Data
 - a. The Grantor must establish, maintain, enforce and continuously improve safeguards and security procedures against the unauthorised use, destruction, loss or alteration of Grantor's Data in the possession or control of the Vendor that:
 - b. are consistent with, and no less rigorous than, those maintained by the Grantor to secure that data, and in any case are no less rigorous than Prudent Industry Practice and relevant international standards; and
 - c. comply with all laws applicable to the Vendor's use and custody of Grantor's Data and any policies, standards or procedures specified by Grantor concerning Grantor's Data security.
 - d. Notwithstanding any other provision of this Concession Agreement, the Grantor's ownership of the Grantor's Data is absolute and unconditional.
 - e. The Vendor must return Grantor's Data to the Grantor immediately on termination or expiration of this Concession Agreement or on request by the Grantor at any time. Such Grantor's Data must be returned in an
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acceptable, usable and open format as prescribed by the Grantor and which can be utilized by the Grantor. If and when directed to do so, such return of Grantor's Data may require Secure Data Deletion from the Vendor's systems.

- f. The Vendor must:
 - i. comply with all Grantor's Data security requirements, policies, procedures and standards in respect of access to and storage of Grantor's Data, as notified to the Vendor in writing;
 - ii. prohibit and prevent any person who does not have the appropriate level of security clearance from gaining access to Grantor's Data; and
 - iii. notify Grantor immediately and comply with all written directions of Grantor if the Vendor becomes aware of the contravention of any Grantor's Data security requirement or any other security requirement under this Concession Agreement;
- g. and if there is a conflict between any data security requirements, the most stringent or higher level of security standard will apply.

6.19 BUSINESS CONTINUITY AND DATA RECOVERY

- a) The Vendor:
 - ix. must have, maintain and comply with a Business Continuity and Disaster Recovery Plan which is updated by the Vendor on a regular basis;
 - x. must ensure that the Business Continuity and Disaster Recovery Plan is in line with the requirements of MPSS and FRS;
 - xi. must ensure that the Business Continuity and Disaster Recovery Plan is sufficient to encompass any site or location from which the Vendor or other site or location from which any services are or will be performed (or task and activities relevant to the Project undertaken);
 - xii. must, if requested by the Grantor, update its Business Continuity and Disaster Recovery Plan and provide it to the Grantor;
 - xiii. must make available to the Grantor's regular backup copies of the database in an electronic format, which may include tape, drive or DVD;
 - xiv. must notify the Grantor of any material update to its Business Continuity and Disaster Recovery Plan;
 - xv. must, at the Grantor's request, test or modify its Business Continuity and Disaster Recovery Plan to ensure it is effective in managing risks relevant to service continuity and in responding to relevant events, and is properly integrated with Grantor's own business continuity and disaster recovery processes;
- b) without limiting this Section, if a Disaster occurs, must implement the relevant recovery, back-up and response activities set out in the Business Continuity and Disaster Recovery Plan at the times and in accordance with the corresponding procedures set out in the Business Continuity and Disaster Recovery Plan;
- c) acknowledges and agrees that the Grantor may immediately terminate this Concession Agreement where:
 - i. the Business Continuity and Disaster Recovery Plan is not implemented, or where the Business Continuity and Disaster Recovery Plan is implemented but is not successful in overcoming the effects of the Disaster; or
 - ii. the applicable Disaster continues to materially prevent, hinder or delay

performance of the Project, O&M or IT System for more than 22 Business Days.

- d) if requested by the Grantor (in its sole discretion), must allow the Grantor's observation and assessment of the testing of the Business Continuity and Disaster Recovery Plan or provide the Grantor with an independent assessment and assurance in writing that the Vendor has successfully tested the Business Continuity and Disaster Recovery Plan;
- e) must immediately notify the Grantor of any threat or any disruption to the Vendor's ability to provide the Project; and
- f) must provide to the Grantor a formal status report each for the duration of any disruption to the Project.

6.20 INTELLECTUAL PROPERTY RIGHTS

- a) Unless otherwise expressly stated in this Concession Agreement (and subject to the grant of any licence as contemplated in this Concession Agreement), no Pre-existing Intellectual Property Rights of either party are assigned or otherwise transferred.
- b) The Grantor will own all Intellectual Property Rights in each and every Deliverable immediately from creation (including part creation), except for any Pre-existing Intellectual Property Rights of the Vendor. The Vendor assigns to the Grantor all right, title and interest including Intellectual Property Rights in all wholly or partially created Deliverables. This assignment will be effective immediately on creation (including as a present assignment of future copyright) without the need for further assurance.
- c) The Vendor grants (and must ensure that any third party involved in the development of any Deliverable assigns, without any additional cost to the Grantor,) to the Grantor a worldwide, royalty-free, perpetual (if applicable) , irrevocable, transferable, sub-licensable and non-exclusive licence to use the Pre-existing Intellectual Property Rights of the Vendor and any Pre-existing Intellectual Property Rights third parties which are embodied or incorporated in a Deliverable or are otherwise necessary or desirable to make use of any Deliverable. This licence survives the termination or expiry of this Concession Agreement and without limiting this Section in any other way includes the right to use, copy, modify, enhance or improve, or create further derivative works (and to allow third party contractors to do the same but only in connection with services acquired by the Grantor or any nominee) of the Pre-existing Intellectual Property Rights in connection with the use of a Deliverable.
- d) The Grantor grant to the Vendor a revocable, non-transferable, non-exclusive and royalty-free licence for the term to use the Grantor's Intellectual Property Rights solely to the extent necessary for the Vendor to perform, and solely for the purposes of the Vendor providing, the Project, IT System and O&M.
- e) The terms and conditions between the Vendor and any third party with respect to any Intellectual Property Rights of any third party and which are required to be licensed under this Concession Agreement (including any Intellectual Property Rights in the nature of software, including commercially available software) must comply with terms (including the terms of this Section) prescribed by this Concession Agreement.
- f) Both the Grantor and the Vendor must adhere to the terms specified in the Non-Disclosure Agreement as specified with

g) APPENDIX 3 - Non-Disclosure Agreement.

6.21 SOFTWARE CURRENCY

- a) Without limiting any of the Grantor's rights or the Vendor's other obligations under this Concession Agreement, the Vendor must:
 - i. maintain the software currency of the third-party licensed software that provides the core functionality of IT System at N or N-1, where "N" is the latest major software version released by the licensor of that third-party software; and
 - ii. promptly apply all enhancements, upgrades, patches and bug fixes so as to ensure the IT System is reliable and up to date at all times.

6.22 PROJECT ASSET REGISTER

- a) From the System Development Start Date and during the Concession Period, the Vendor must produce the Project Asset Register for the Project and update the Project Asset Register as and when changes are made to the Project Assets.
- b) Any amendments, additions and deletions to the Project Asset Register must be capable of being audited. The Vendor must, on no less than an annual basis, reconcile by audit the information contained within the Project Asset Register with the Project Assets for the Project.
- c) Where a shortfall is identified between the Project Asset Register and the Project Assets for the Project, the Vendor must replace any missing Project Asset, as soon as practicable, with a new asset which is at least of the same quality and utility as the missing Project Asset. Obsolescence, normal wear and tear and allowed/approved disposals will be excluded in the calculation of any shortfall in Project Assets in accordance with this Section.

6.23 HAND BACK OF PROJECT

- a) Unless this Concession Agreement is terminated earlier, the Concession Period will end on the Expiry Date. The Vendor must transfer to the effective control of the Grantor on the Expiry Date (and in case this Concession Agreement is terminated earlier, on the Termination Date):
 - i. the Project, including:
 - i. possession of all Project Assets;
 - ii. all IT System passwords and administrative rights;
 - iii. all Deliverables including software as will enable the Grantor to operate and maintain the Project Assets;
 - iv. all IT System related documentation, including hardware configurations, software code, database schema and flowcharts;
 - v. all System Development in progress as on the Expiry Date or the Termination Date, as the case may be;
 - vi. all Relevant Consents, to the extent that these are transferrable, provided that the Vendor must use its best endeavours to procure that all Relevant Consents that it procures or obtains are capable of being transferred to the Grantor; and
 - vii. any other rights of the Vendor under this Concession Agreement, in each case, free from any Security Interest, liens and/or encumbrances.
 - ii. such of Vendor's assets, contracts and subcontracts related to Project Assets (including those relating to hardware, software, and third party services) as the Grantor may request so that the Grantor continue to receive the benefit of the assets, contracts and subcontracts, and settle any obligations outstanding and payable by the Vendor in relation to such assets, contracts and subcontracts.
- b) Without limiting this section, the Vendor must use its best efforts to ensure that the Grantor and any alternate service provider acquires any necessary rights to access and use any licensed software, third party software and associated documentation used by the Vendor in connection with the Project, and the Vendor must use its best efforts to minimise the costs to the Grantor and any alternate service provider of acquiring such rights. The Vendor agrees to the unconditional and irrevocable appointment of either the

- Grantor as its attorney-in-fact for the purposes of giving effect to any assignment or novation.
- c) The Vendor must return the Project Assets in the condition required under the Hand Back Requirements, normal wear and tear excluded.
 - d) The Vendor warrants that the Project Assets will be in the condition required under the Hand Back Requirements, normal wear and tear excluded.
 - e) Notwithstanding anything contained in this Concession Agreement, no liability (accrued or contingent) of the Vendor or relating to the Project Assets arising from any action or inaction (as the case may be) of the Vendor prior to the Expiry Date or Termination Date (as the case may be) will be assumed or transferred to Grantor. In the event of any violation of this Section, the Grantor will be entitled to call upon the Warranty Security equivalent to the quantum of such liability and/or amount corresponding to such encumbrance.
 - f) At least twelve (12) months prior to the Expiry Date, the Parties will, by mutual consultation prepare the procedures and protocol for hand back of the Project Assets to the Grantor on the Expiry Date or the Termination Date (as the case may be).
 - g) On the Termination Date or the Expiry Date (as the case may be) the Vendor must:
 - i. withdraw from the Project;
 - ii. Transfer to the Grantor at no cost and without recourse to Vendor, such Vendor's Subcontracts as the Grantor may request, and the Vendor must ensure that all its Subcontracts can be assigned and novated to the Grantor;
 - iii. to the extent the Grantor request the assignment or novation of a Vendor Subcontract, the Vendor must, prior to assigning such Subcontract, settle any obligations outstanding and payable by the Vendor in relation to such Subcontract;
 - iv. revoke system access rights of its employees, and ensure that the Grantor's employees have access rights to the system;
 - v. at its own cost, remove such materials, equipment, tools and instruments used by the Vendor and any debris or waste materials generated by Vendor in the performance of the Project as the Grantor may direct, and the Grantor will take possession of any or all designs, drawings and facilities of the Vendor related to the Project or necessary for completion of the System Development and/or the operation and maintenance of any Project Assets; and
 - vi. the Vendor will assign to the Grantor, if the Grantor so request, all rights and benefits pertaining to the Project which it is able to assign, including any unexpired warranties in respect of the Project, its equipment and systems.
 - h) On and from the Expiry Date or Termination Date (as the case may be), the Vendor and the Grantor will no longer have any further obligations towards each other unless otherwise provided under this Concession Agreement.
 - i) The Vendor must, at its cost, obtain all Relevant Consents and take such action as may be necessary to provide possession of all Project Assets pursuant to this section (Hand Back of Project).

6.24 DATA CENTRE

- a) The Vendor may either act as the Data Centre Operator, or may appoint another person or entity as the Data Centre Operator, to establish the Data Centres on a Ministry of Electronics & Information Technology (MEITY) approved cloud vendor⁵ compliant with ISO 27017 and ISO 27018 standards, or a co-location based model.
- b) Where the Vendor appoints a Data Centre Operator:
- i. the Data Centre Agreement (and any replacement thereof) must comply with minimum requirements to be prescribed in this Concession Agreement;
 - ii. the Vendor must only appoint a Data Centre Operator that is solvent and reputable and has the financial capacity, technical capability and the necessary qualifications, skills and experience; and
 - iii. the Vendor must ensure that the Data Centre Agreement contains the following provisions enforceable by the Grantor:
 - a. recognition of the Grantor's emergency step in rights;
 - b. an obligation on the Data Centre Operator to comply with the directions of the Grantor as if they were the Vendor, while the Grantor are stepping in;
 - c. an obligation on the Data Centre Operator not to terminate the contract or suspend the performance of its obligations thereunder unless it has provided a written notice to the Grantor providing details of the breach giving rise to their right to terminate or suspend and affording the Grantor a period of no less than thirty (30) days from date of receipt of the notice to cure the breach: and
 - d. the Grantor notify the Data Centre Operator that they do not intend to attempt to remedy the breach; or
 - e. the breach is not remedied within such 30-day period, or such longer period as the Data Centre Operator may agree;
 - iv. Notwithstanding any other provision of this Concession Agreement, the Vendor's obligation to provide on-going free access to the Data Centres during the Concession Period is absolute and unconditional, except for any conditions necessary to comply with reasonable health and safety requirements. The Vendor must not refuse, prevent or hinder the Grantor's access to the Data Centres at any time during the Concession Period. The Vendor is not entitled to request payment or set off any amount in relation to access to the Data Centres, regardless of any claims by the Vendor against the Grantor under or in connection with the Concession Agreement (whether for any part of the Balancing Payment or otherwise) or any Dispute.

⁵ ⁵ Cloud Service Providers having "Compliant" STQC Audit Status as specified at <http://meity.gov.in/content/gi-cloud-meghraj>, or as per updated circulars/instructions.

6.25 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.

6.26 INDEMNIFICATION

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

design or process used by the Service Provider or by the Agents in performing the Service Provider's obligations or in any way incorporated in or related to this Contract. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Service Provider shall make every reasonable effort, by giving a bond (of the type and value as required) or otherwise, to secure the revocation or suspension of the injunction or restraint order and continue to perform its obligations hereunder. If the Service Provider is unable to secure such revocation within a reasonable time, it shall, at its own expense, and without impairing the Specifications and Standards, shall rectify such defaults and shall also be liable for damages to IHMCL for the corresponding loss during the interim period on this account.

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

6.27 TERMINATION

- a) ON EXPIRY OF THE CONTRACT: Subject to the condition mentioned under the RFP, the Agreement shall be deemed to have been automatically terminated on the expiry of the Contract Period unless IHMCL has exercised its option to further renew the Contract Period in accordance with the provisions, if any, of the Contract.
 - b) ON ACCOUNT OF FORCE MAJEURE: Either party shall have the right to terminate the Contract on account of Force Majeure, as set forth in the RFP.
 - c) ON BREACH OF CONTRACT: IHMCL may terminate the Contract if the Service Provider causes a fundamental breach of the Contract. Fundamental breach of Contract includes, but shall not be limited to, the following:
 - i. The Service Provider fails to carry out any obligation under the Contract.
 - ii. The Service Provider without reasonable excuse fails to commence the work in accordance with relevant clauses.
 - iii. Has failed to furnish the required securities or extension thereof in terms of the Contract.
 - iv. the Service Provider stops work and the stoppage has not been authorized by IHMCL;
 - v. the Service Provider at any time during the term of the Contract becomes insolvent or makes a voluntary assignment of its assets for the benefit of creditors or is adjudged bankrupt
 - vi. If the Service Provider, in the judgment of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract.
 - d) The Service Provider sub-contracts any assignment under this Agreement without approval of IHMCL.
 - e) Any other fundamental breaches as specified in the RFP.
 - f) Notwithstanding the above, IHMCL may terminate the Contract in its sole discretion by giving 30 days prior notice without assigning any reason.
 - g) Upon Termination (except on account of expiry of Term of this Agreement, Force Majeure), IHMCL shall be entitled at the sole discretion to:
 - i. appropriate the entire Performance Bank Guarantee or part thereof as Damages; and
 - ii. Debar/Blacklist the Service Provider from participating in any other
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project/assignment/work of IHMCL for a period as determined by IHMCL in its sole discretion.

6.28 Appropriation of Performance Bank Guarantee

- a) Upon failure of the Service Provider to commence the services, for any reason whatsoever, within the period set forth in this Contract or the extended period thereunder, IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to levy Damages as per relevant Clause hereinabove.
- b) IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Bank Guarantee as Damages or any other amounts payable to IHMCL under this Contract as and when such Damages or other amounts become due and payable. Upon such encashment and appropriation from the Performance Bank Guarantee, the Service Provider shall, within 10 days thereof, replenish, in case of partial appropriation, to its original level of the amount guaranteed under the Performance Bank Guarantee, and in case of appropriation of the entire Performance Bank Guarantee, provide a fresh Performance Bank Guarantee, as the case may be failing which IHMCL shall be entitled to terminate this Agreement in accordance with relevant clause hereof.

6.29 MISCELLANEOUS

a) Standard of Performance

The Service Provider shall undertake to perform the services with the highest standards of professional and ethical competence and integrity which are, amongst others, ESSENCE of this assignment. Keeping in view the sensitivity involved in such assignments, the personnel deployed should maintain confidentiality/integrity at all times and should work in a professional manner to protect the interest of IHMCL. The firm shall promptly replace any personnel deployed under this contract that IHMCL considered unsatisfactory. The Vendor also needs to ensure that the System developed adheres the standards as specified under PART - V: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS.

b) Representations and Warranties of the Parties

The Parties represents and warrants to the each other that:

- i. It is duly organized and validly existing under the applicable laws, and has full power and authority to execute and perform its obligations under this Contract and to carry out the transactions contemplated hereby;
- ii. It has taken all necessary corporate and other actions under applicable laws to authorize the execution and delivery of this Contract and to validly exercise its rights and perform its obligations under this Contract;

-
- iii. This Contract constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Contract will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
 - iv. The information furnished in the Bid and as updated on or before the date of this Contract is true and accurate in all respects as on the date of this Contract;
 - v. The execution, delivery and performance of this Contract will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its Memorandum and Articles of Association [or those of any member of the Consortium] or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
 - vi. There are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Contract or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Contract;

c) Waiver of immunity

Each Party unconditionally and irrevocably:

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

d) Waiver

- i. Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or

obligations under this Contract:

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

e) Liability for review of Documents

Except to the extent expressly provided in this Contract:

- i. No review, comment or approval by IHMCL, any document submitted by the Service Provider nor any observation or inspection of the Services performed by the Contractor nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Contract, the Applicable Laws and applicable permits; and
- ii. IHMCL shall not be liable to the Service Provider by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

f) Exclusion of implied warranties etc.

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

g) Survival

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

h) Entire Agreement

This Contract, the RFP and the Sections hereto together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless such

modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Contract are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposals shall be deemed to form part of this Contract and treated as such.

i) Severability

If for any reason whatever any provision of this Contract is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Contract or otherwise.

j) No partnership

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

k) Third parties

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

l) Successors and assigns

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

m) Notices

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

- i. in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to IHMCL; provided that notices or other communications to be given to an address outside Delhi may, if they are subsequently confirmed by

- sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the number as the Contractor may from time to time designate by notice to IHMCL;
- ii. in the case of IHMCL, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the [•] of IHMCL with a copy delivered to the Authority Representative or such other person as IHMCL may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in Delhi it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and
 - iii. any notice or communication by a Party to the other Party given in accordance herewith shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery

n) Sub-Contracting

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

o) Confidentiality of the Assignment/Findings

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

p) Modification

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

q) Language

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

For & behalf of IHMCL

By

Authorised Representative

Signature

Name

Address

For & behalf of

Witness

(Contractor)

1.

Signature

Name

Address

By

Authorised Representative

2.

Signature

Name

Address

APPENDIX 1 - Scope of Work

As outlined in PART - IV: SCOPE OF WORK/FUNCTIONAL REQUIREMENTS SPECIFICATIONS (FRS)

APPENDIX 3 - Non-Disclosure Agreement

This Non-Disclosure Agreement dated the day of -----, 2019 BETWEEN the “Grantor” AND the “Vendor”

WHEREAS In connection with the engagement for development of Proprietary Toll Management System (“PTMS”), the Parties have agreed to execute this Non-Disclosure Agreement to ensure that all Confidential Information, related to development of Project Assets, shared between the Grantor and the Vendor in the course of this bidding process is kept confidential.

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. Definitions

- a. “Purpose” shall mean the development of Project Assets, assigned by the Vendor to the Grantor.
- b. “Confidential Information” has the meaning as referred in the Concession Agreement.
- c. “Originator Party” shall mean the party that has shared the Confidential Information with the Receiving Party for the Purpose of the development of PTMS.
- d. “Receiving Party” shall mean the party that has received the Confidential Information from the Originator Party for the Purpose of the development of PTMS.

2. Handling of Confidential Information

Both the Originator Party and the Receiving Party shall maintain the Confidential Information in confidence, and shall exercise in relation thereto no lesser security measures and degree of care than those which the applicable party applies to its own Confidential Information which the party warrants as providing adequate protection against unauthorized disclosure, copying or use. The Receiving Party shall ensure that disclosure of such Confidential Information is restricted to those employees, directors, officers, representatives, advisors, consultants or agents (collectively referred to as “Representatives”) having the need to know the same for the Purpose. Copies or reproductions shall not be made except to the extent reasonably necessary for the Purpose and all copies made shall be the property of the Grantor. All Confidential Information and copies thereof shall be returned to the Originator Party within seven (7) days of receipt of a written request from the Grantor. The Receiving Party shall not attempt to reverse engineer, decompile, disassemble or reverse translate any Confidential Information provided by the Originator Party or discover the source code or trade secrets in any such Confidential Information. Nothing in this Agreement shall limit the ability of a party to disclose such Confidential Information of the other party if such disclosure is:

- a. required to be made pursuant to any law or regulation, government authority, duly authorized subpoena or court order, whereupon that party shall provide prompt notice to the Receiving Party of the Confidential Information in question, who will thereof have the opportunity to respond prior to such disclosure;

- b. required to be made by a court or other tribunal in connection with the enforcement of such Originator Party's rights under this Agreement, or
- c. is approved by the prior written consent of the Originator Party of the Confidential Information.

3. Limitations and Warranty

a. The Receiving Party shall:

- i. not divulge the Originating Party's Confidential Information, in whole or in part, to any third party without the prior written consent of the Originating Party's,
- ii. use the same only for the Purpose, and
- iii. make no commercial use of the same or any part thereof without the prior written consent of the Originating Party.

Notwithstanding the foregoing, the Receiving Party shall be entitled to make any disclosure required by law of the Originating Party's Confidential Information

- b. The Grantor warrants its right to disclose its Confidential Information to the Vendor and to authorize the Vendor to use the same for the Purpose

4. Disclaimer

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

5. Notices

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

6. No Bar on Participation in Projects initiated by the Grantor

The Grantor acknowledges that the advisory mandate awarded to the Vendor will not bar the Vendor or any of its group companies from bidding or participating in any projects initiated by the Grantor except the projects comes under Conflict of Interest as mentioned in Clause 3.2 of the Contract on the ground that the Vendor was privy to information which was not within the public domain. On its part the

Vendor shall ensure, confirm and warrant that neither the Vendor nor any of its group companies will mis-use the information available to it in the course of the advisory mandate to derive an unfavourable advantage in bidding /participation in any projects initiated by the Grantor .The Grantor on its part shall not summarily debar or reject the applicant/participation of the Vendor on the ground that the Vendor was privy to confidential information and it has derived undue advantage , unless reasonable opportunity is given to the Vendor to put forth its say.

7. Non-Assignment

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

8. Forbearance

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

9. Indemnity

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

10. Non-Publicity

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

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

12. The Originating Party and the Receiving Party agree that the obligations contained in this Agreement shall extend to the affiliated companies of the Vendor and to all its advisors and consultants. In this respect the parties represent that an agreement to keep such information confidential, on terms similar to this Agreement, is in place

before disclosing any Confidential Information to such affiliate, advisor or consultant.

13. Entire Agreement

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

14. Dispute Resolution

The parties shall attempt to resolve any dispute arising out of or in connection with this Agreement as per conditions specified in the Concession Agreement.

15. Governing Law and Jurisdiction

This Agreement shall be governed by and construed in all respects in accordance with the laws of India IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives on the day and year first above written

On behalf of Grantor

Name _____

Title _____

Signature _____

On behalf of Vendor

Name _____

Title _____

Signature _____

PART - VII: ANNEXURES

Annexure 1: Covering Letter

(In the letterhead of the Bidder)

To
General Manager
Indian Highways Management Co. Ltd. (IHMCL)
2nd Floor, MTNL Building,
Sector 19, Dwarka
New Delhi 110 075

Subject: Selection of Bidder for _____

Ref. No. RFP. No. _____ dated _____ -

Dear Sir,

1. I/We, the undersigned, have carefully examined the contents of the document including amendments/ addendums (if any) thereof and undertake to fully comply and abide by the terms and conditions specified therein and hereby submit our application. Our application is unconditional and unqualified.

2. 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.

3. I/We understand that:

- a. this Bid/Proposal, if found incomplete in any respect and/ or if found with conditional compliance or not accompanied with the requisite application fee and/ or prescribed supporting document shall be summarily rejected.
- b. if at any time, any averments made or information furnished as part of this application is found incorrect, then the application will be rejected
- c. IHMCL is not bound to accept any/ all Bid (s) it will receive.

4. I/We declare that:

- a) I/We have been operating in the field of Software development/IT Solutions for at least 5 years as on 31 March 2019.
- b) **I/We have not been *declared ineligible*** by IHMCL, NHAI or Ministry of Road Transport & Highways, Government of India or any other agency for indulging in corrupt or fraudulent practices. I/We also confirm that I/We have not been *declared as non-performing or debarred* by NHAI or Ministry of Road Transport & Highways, Government of India.

- 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.

5. I/We declare that our bid is valid for 120 days.

Name

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

Annexure 2: Brief Information about the Applicant(s)

(To be prepared on letterhead of the Applicant)

Subject: Selection of _____

1.
 - (a) Name of Applicant:
 - (b) Year of establishment:
 - (c) Registered Address:
 - (d) Constitution of the Applicant entity e.g. Government enterprise, private limited company, limited company, etc.
2. Address for correspondence with Telephone/ Fax numbers/ e-mail address:
 - (a) Authorized Person with Complete postal address:
 - (b) Fixed telephone number
 - (c) Mobile number
 - (d) E-mail address
 - (e) Official Bank (for returning EMD)
 - (f) Bank Account Number (for returning EMD)
3. Name of the Statutory Auditor certifying the documents along with his/ her Membership number, if applicable:
4. Applicant details (Please include details for each Consortium Member, if applicable)

Required Info	Documentary Evidence Attached (Yes/No, along with page no.)
Field of business	
Registration Status	
CMMi level of organization	
Qualifying Projects - value, client, key features	
Average Turnover	
Is Bidder debarred by any Government entity (Yes/No)	

5. Financial details/projects meeting the qualifying criteria

Name

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

Annexure 3: Brief Information about the project (Not to exceed 10 pages)

Subject: Selection of Bidder for _____

The technical proposal should contain a technical presentation in PDF format, which can justify the Bidder's proposal on following aspects:

- i. technical, operational and environmental compatibility of the proposed Solution with existing plaza architecture;
- ii. proposed solution architecture with special reference to following:
 - a. Electronic payments
 - b. Cash handling
 - c. Plaza exceptions
 - d. Plaza/lane status reports
 - e. Equipment health check reports
- iii. Approach for maintaining the solution for the defined period
- iv. Testing strategy for the following scenarios
 - a. Unit Testing
 - b. Integration Testing - testing interfaces with various hardware
 - c. Implementation Testing - testing the implementation success at Toll Plazas

Annexure 4: Bidder's Annual Turnover

RFP Ref _____ (Date)

From,

(Name & Address of the Bidder)

To,

General Manager,
Indian Highways Management Co. Ltd.
2nd Floor, MTNL Building, Sector -19, Dwarka
New Delhi 110 075

Subject: -----

Dear Sir/Madam,

We hereby certify that the average annual turnover of M/s. _____ (name of the bidder) for the last three financial years (ending 31st March of the previous financial year) is as given below:

Annual Turnover for the last 3 Financial Years (FYs) in Indian Rupees (INR)				
FY Current (2018-19)	FY Current-1	FY Current -2	Average	

Annual Net worth for the last 3 Financial Years (FYs) in Indian Rupees (INR)				
FY Current (2018-19)	FY Current-1	FY Current -2	Average	

Yours Sincerely,

(Signature of Statutory Auditor)

Name of the Statutory Auditor:

Name of the Statutory Auditor Firm:

Seal:

Annexure 5: Power of Attorney

Know all men by these presents, we, M/s (name of Firm/ 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 quotation for empanelment as the agency for -----, proposed by Indian Highways Management Co. Ltd., including but not limited to signing and submission of all applications, proposals 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 proposal and generally dealing with IHMCL in all matters in connection with or relating to or arising out of our proposal for the said assignment and/or upon award thereof to us.

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

IN WITNESS WHEREOF WE,THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS

POWER OF ATTORNEY ON THIS DAY OF, 2018

For

(Signature, name, designation and address)

Witnesses:

1.

2.

Notarized

Accepted

.....

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

Notes:

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

Wherever required, the Applicant should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favor of the person

executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

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

Annexure 6: Power of Attorney for Lead member

(On Non - judicial stamp paper of appropriate value or such equivalent document duly attested by notary public)

Power of Attorney

Whereas Indian Highways Management Company Ltd. (IHMCL), has invited Proposals from eligible entities for of Selection of Vendor for Developing and maintaining IHMCL's Proprietary Toll Management System (PTMS) the "Project",

Whereas, the members of the Consortium are interested in bidding for the Project and implementing the Project in accordance with the terms and conditions of the Request for Proposal (RFP) Document and other connected documents in respect of the Project, and

Whereas, it is necessary under the RFP Document for the members of the Consortium to designate the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's bid for the Project who, acting jointly, would have all necessary power and authority to do all acts, deeds and things on behalf of the Consortium, as may be necessary in connection the Consortium's bid for the Project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT;

We, M/s. (Lead Member) and M/s (the respective names and addresses of the registered office) do hereby designate M/s. being one of the members of the Consortium, as the Lead Member of the Consortium, to do on behalf of the Consortium, all or any of the acts, deeds or things necessary or incidental to the Consortium's bid for the Project, including submission of Proposal, participating in conferences/meetings, responding to queries, submission of information/ documents and generally to represent the Consortium in all its dealings with IHMCL, any other Government Agency or any person, in connection with the Project until culmination of the process of bidding and thereafter till the Agreement is entered into with IHMCL.

We hereby agree to ratify all acts, deeds and things lawfully done by Lead Member, our said attorney pursuant to this Power of Attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/ Consortium.

Dated this theDay of2018

.....
(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.

Annexure 7: Format for Performance Bank Guarantee

To,
General Manager,
Indian Highways Management Company Ltd
2nd Floor, MTNL Building,
Sector-19, Dwarka,
New Delhi - 110075, India

WHEREAS _____[Name and address of Agency]
(hereinafter called “the Service Provider”) has decided to apply to IHMCL for providing
services, in pursuance of IHMCL letter of work award No._____ dated dd/mm/yyyy for
**“REQUEST FOR PROPOSAL(RFP) FOR SELECTION OF VENDOR FOR MANAGING IHMCL
WALLET”**

” (hereinafter called the “Contract”).

1. AND WHEREAS it has been stipulated by IHMCL in the said letter that the Service Provider shall furnish a Bank Guarantee for the sum specified therein as security for compliance with his obligations in accordance with the terms & conditions of the Contract Agreement.
2. AND WHEREAS we have agreed to give the Service Provider such a Bank Guarantee:
3. NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider up to a total of `/- (Rupees only, such sum
being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of `/- as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.
4. We hereby waive the necessity of your demanding the said debt from the Service Provider before presenting us with the demand.
5. We further agree that no change or addition to or other modification of the terms of the service provider or of the works to be performed there under or of any of the Contract documents which may be made between you and the Service Provider shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.
6. We undertake to pay to the IHMCL any money so demanded notwithstanding any dispute or disputes raised by the Service Provider(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Service Provider(s) shall have no claim against us for making such payment.

7. The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the Service Provider or of the Bank.
8. This guarantee shall also be operable 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.
9. This bank guarantee shall be valid from
10. Notwithstanding anything contained herein:
 - (i) Our liability under this Bank Guarantee shall not exceed `/-
 - (ii) The Bank Guarantee shall be valid up to.....
 - (iii) We are liable to pay the Guarantee amount or any part thereof under this Guarantee only and only if you serve upon us a written claim or demand on or before

Name:

Date:

Designation:

Employee Code Number:

Telephone Number:

Name of issuing bank branch _____

Address _____

Telephone number _____

E-mail: _____

Name of bank branch at New Delhi _____

Address _____

Telephone number _____

E-mail: _____

Name of controlling bank branch _____

Address _____

Telephone number _____

E-mail: _____

* The bank guarantee shall be verified through SFMS package.

Annexure 8: Self Certificate - Format for Project Citation by the Bidder

The details of projects executed by the Bidder:

Name of the Project & Location	
Client's Name, Contract Details Complete Address	
Brief narrative description of Project - highlighting relevant scope of work such as Software Application developed, etc.	
Contract Value for the Project (in INR)	
Date of Start of Project	
Date of Completion of Project/Status of Completion	
Activities undertaken by Lead Member or Consortium member	

N.B - If the project is ongoing, bidder must clearly specify, the stages/phases/milestones

(Copies of Work orders/Contract Agreement/Client certificate to be attached along with)

Signature & Seal:

Name:

Designation:

Bidding entity's name

Address:

Date:

Annexure 9: Format for Affidavit Certifying Non-Blacklisting

(On Non-Judicial stamp paper of appropriate value)

Affidavit

I, M/s., (the name and addresses of the registered office of the Bidder(s)) hereby certify and confirm that we or any of our promoters/ directors are not barred or blacklisted by any state government or central government / department / agency in India from participating in projects, either individually or as member of a Consortium as on the (Not earlier than 3 days prior to the Bid Due Date).

We undertake that, in the event of us or any of our promoters/directors being blacklisted / barred at any time post the date of this affidavit, we shall intimate IHMCL of such blacklisting.

Dated this Day of, 2018.

Name of the Bidder

.....

Signature of the Authorised Signatory

.....

Name of the Authorised Signatory

Annexure 10: Format for Financial Bid Submission

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

RFP Ref: _____

Dear Sir,

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.

Financial Proposal

Serial Number	Item	Value
1.	Software Development Cost ⁶	
	The Cost of Software Development shall be the bidding parameter as specified in the Section Evaluation of Bids.	

We also include the following details for the O&M Payment on a quarterly basis, post the initial period of Five (5) years⁷.

Serial Number	Item	O&M Payment
1.	Annual Maintenance Cost in the Sixth Year ⁸	

⁶ 10% of the quoted value shall be released upon completion of each milestone as specified in Section 3.13. The remaining 60% shall be released as quarterly payments of 3% of Software Development Cost during Operations and Maintenance Period. Also, as defined under Section 1.2, the "Software Development Cost" refers to "the total cost (in Indian Rupees) quoted by Bidder for development of the IT System and its Operation and Maintenance for a period of Five (5) years. The cost shall be inclusive of all taxes, except GST that shall be reimbursed separately by the Grantor".

⁷ These details are provided on a non-binding basis and IHMCL reserves the right to award, or not to award, the work to the Bidder as per quoted rates. Also, these rates shall play no role in the Bid Evaluation.

⁸ All years starting from end of initial O&M period of Five years

Serial Number	Item	O&M Payment
2.	Annual Maintenance Cost in the Seventh Year	
3.	Annual Maintenance Cost in the Eighth Year	
4.	Annual Maintenance Cost in the Ninth Year	
5.	Annual Maintenance Cost in the Tenth Year	

Appendix 2 - Plaza Details

The following data shall be provided by IHMCL subsequently

Serial No.	Plaza Name	Total number of lanes	Total cash collection (per annum)	Total ETC collection (per annum)