



**Name of Work:** Comprehensive Maintenance of Existing Toll Management System (TMS) at 22 Interchanges including Main Traffic Control Center at Nanakramguda and Sub Traffic Control Center at Ghatkesar, on ORR Hyderabad for a period of 18 months.

**(Bid Notice No. 173/CGM (T)/HGCL/ORR/TMS/2022-23, Dt.03.12.2022)**

**HYDERABAD GROWTH CORRIDOR LIMITED**

**HGCL Office Building, 2<sup>nd</sup> Floor,  
Khajaguda, Adjacent to ORR,  
Nanakramguda, Hyderabad 500 104**

**Tender Document**

December 2022

## **DISCLAIMER**

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

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

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

HGCL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this document or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the document and any assessment, assumption, statement or information contained therein or deemed to form part of this document or arising in any way for participation in this Bid.

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

The issue of this document does not imply that HGCL is bound to select a Bidder or to appoint the Successful Bidder for the Project and HGCL 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 HGCL or any other costs incurred in connection with or relating to Bid. All such costs and expenses will remain with the Bidder and HGCL 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
HGCL	:	Hyderabad Growth Corridor 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
OHLS	: Over Head Lane Sign
PDB	: Power Distribution Board
POS	: Point of Sales
RAID	: Redundant Array of Inexpensive Disks
RFID	: Radio Frequency Identification
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
TMS	: Toll Management System
TOD	: Tour of Duty
UPS	: Uninterrupted Power Supply

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## **PART – I: LETTER OF INVITATION**

### **1. INTRODUCTION**

The HYDERABAD GROWTH CORRIDOR LIMITED (HGCL), a subsidiary of Hyderabad Metropolitan Development Authority (HMDA) is mandated to take up construction and operations of the Hyderabad Outer Ring Road. The Hyderabad Outer Ring Road of 158 km length connects Kokapet- Patancheru - Medchal – Shamirpet - Ghatkesar – Pedda Amberpet –Shamshabad- Nankramguda –Kokapet providing connectivity to the existing and proposed major growth centers and linking all the State and National Highways passing through Hyderabad.

The Hyderabad Outer Ring Road is a toll road with a closed toll system, in which tollgates are established at both entry and exit points of ORR and the toll proportional to the distance travelled will be collected from the vehicles using it for each class of vehicle. The toll is collected from all road users except VIP vehicles, emergency service vehicles, military convoys etc., The Hyderabad Growth Corridor Limited now invites tenders from eligible companies or joint ventures for comprehensive maintenance of TMS system.

The current toll collection at toll plazas relies on a multitude of systems developed and installed by Consortium of M/s EFKON AG & M/s EFKON India Private Limited. The System has been successfully installed and commissioned in June 2018 and as per the contract agreement with M/s Efkon, the software is been under the scope of M/s EFKON for a period of 10 years from the date of Commissioning of the Project. After completion of DLP period of M/s Efkon with regard to Hardware Maintenance, the TMS Maintenance work was awarded to M/s Vaaan and the contract period is up to January 2023 and since the contract period of present TMS Maintenance Agency is nearing to completion, HGCL seeks to appoint an agency through tenders for Comprehensive Maintenance of Toll Management System on ORR for a period of 18 months without upgrading the present system components / equipments. Hyderabad Outer Ring Road has 1 Main Traffic Control Centre at Nanakramguda, one (1) Sub Traffic Control Centre at Ghatkesar, 19 Toll Plazas with a total of (181) Manual, Touch& Go and ETC lanes + 17 Temporary lanes.

The original system Integrator M/s Efkon will extend the requisite support for any changes in software as per Agreement No. CGM (T)/HGCL/TMS/ 2014-15,Dt: 18.12.2014. For any damage/replacement of TMS Hardware, the Maintenance contractor is responsible. Any software issues during the operation period, Maintenance contractor has to rectify. In case the maintenance contractor not able to rectify, M/s Efkon will resolve the issue on Payment basis and the cost has to be borne by the Maintenance Agency.

HGCL is planning to construct Three (3) new interchanges at Narsingi (4 lanes), at Neopolis Kokapet Layout (8 lanes) and at Mallampet (8 lanes) as part of retrofitting. The TMS Maintenance Agency should deploy additional manpower for maintenance of the toll equipment at these three locations as part of TMS Maintenance since the Hardware and Manpower cost is included in the tender, no additional payment will be paid to the TMS Maintenance Agency.

## 2. NOTICE INVITING TENDERS

Bids are invited by the Hyderabad Growth Corridor Limited (HGCL) for the following:

Tenders for the work mentioned below are invited from the eligible firms registered in India.

S No	Description	NIT
1)	Name of the work	: Comprehensive Maintenance of Existing Toll Management System(TMS) at 22 interchanges including Main Traffic Control Center at Nanakramguda and Sub Traffic Control Center at Ghatkesar, on ORR Hyderabad for a period of 18 months.
2)	Estimate Contract value of work put to tender	: <b>Rs. 8,44,38,045 /-</b>
3)	Period of Maintenance	: <b>18 months</b>
4)	Form of contract <b>Class of contractor eligible</b>	Lumsum Contract Firm Registration Certificates  : The Bidder shall have Certificate of Firm Registration (Shall be established minimum 15 years prior to bid published date in India) & following Certifications valid at the time of Bidding. <ul style="list-style-type: none"> <li>• ISO 9001:2008/9001:2015.</li> <li>• ISO 20000:2011 for IT Service Management or equivalent certification.</li> <li>• ISO 27017/2015 for information Technology Security Techniques</li> <li>• CMMI Level</li> </ul> Note: All above certificates shall be issued minimum 6 months prior to bid submission date else certification shall be deemed invalid.
5)	E.M.D. to be paid in the shape of Online Payment/BG in favour of Hyderabad Growth Corridor Limited. Obtained from Nationalised/Schedule Bank	: INR 20,00,000/- (Rupees Twenty Lakhs Only)
6)	Date of Bid Notice	09.12.2022
7)	Date for Tender Document downloading starts	: 09.12.2022
8)	Last date and time for submission of Tenders	: 27.12.2022 @ 3.00 PM or 15:00 Hrs IST
9)	Date and time of opening of Technical Bids	27.12.2022 @ 3.30 PM or 15:30 Hrs IST

- a) If required, the intending Bidders can contact the Chief General Manager (T), HGCL for information regarding this tender.



- b) The intending Bidders need to register on the electronic procurement market place of Government of Telangana that is, [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in). On registration on the e-procurement market place they will be provided with a user ID and password by the system using which they can submit their bids online.
- c) The Bidders should scan and upload the required documents as per the tender requirements in the E-procurement platform. The scan of documents should be clearly visible.
- d) Any clarifications/ corrigenda will be published only on the e-procurement portal [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in), and HMDA website [www.hmda.gov.in](http://www.hmda.gov.in)
- e) The complete Bidding Documents can be viewed / downloaded from e-procurement portal [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in) and [www.hmda.gov.in](http://www.hmda.gov.in). The Bids shall be liable for summarily rejection unless accompanied by the requisite EMD and bid document fee as indicated above.
- f) The eligibility criteria of the agency/contractor are elaborated in subsequent sections/pages.

**As per G.O.Ms.No.174 I & CAD Dept., dt.01.09.2008:**

- i. Submission of original Hard Copies of the uploaded scan copies of Online Payment / BG towards EMD by participating bidders to the tender inviting authority before opening of the price bid is dispensed forthwith.
- ii. All the bidders shall invariably upload the clearly scanned copies of Online Payment/BG in e-procurement system and this will be the primary requirement to consider the bid as responsive.
- iii. The Department shall carry out the technical bid evaluation solely based on the Uploaded certificates / documents, Online Payment/BG towards EMD in the e-procurement System and open the price bids of the responsive bidders.
- iv. The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, Online Payment/BG towards EMD prior to entering into agreement.
- v. The successful Bidder shall invariably furnish the original Online Payment / BG towards EMD, certificates/documents of the uploaded scanned copies to the Tender inviting Authority before entering into agreement either personally or through courier or post and

the receipt of the same within the stipulated date shall be the responsibility of the successful Bidder. The Department will not take any responsibility for any delay in receipt/non-receipt of original Online Payment/BG towards EMD, certificates/documents from the successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuinity of the Online Payment/BG towards EMD and all other certificates/ documents uploaded by the bidder in e-procurement system in support of the qualification criteria before concluding the agreement.

- vi. if any successful bidder fails to submit the original hard copies of uploaded certificates/documents, Online Payment/BG towards EMD within the stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on e-Procurement platform for a period of 3 years. The e- Procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the tender Inviting Authority in the system. Besides this, the Department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the development schemes taken up by the Government. The information to this extent may be displayed in the e-procurement platform website.
- a) A minimum of 3 days time gap shall be maintained between opening of technical bids and opening of price bids.
- b) The successful (L1) Tenderer shall furnish the original hard copies of all the documents/ Certificates / statements uploaded by him before concluding agreement.
- c) The Tenderer shall be required to furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness / deviation noticed will be viewed seriously and apart from canceling the work duly forfeiting the EMD, criminal action will be initiated including suspension of business.
- d) Before concluding the agreement with the L1 tenderer, the tender inviting authority shall ensure the genuinely of Online Payment/BG furnished by bidder towards EMD and all the certificates uploaded by the bidder online by deputing responsible departmental officials.
- e) The Government as further decided that notwithstanding any existing provisions of the A.P/T.S. Public works Department Code as well as other orders and executive instructions in force if any Tenderer fails to submit the hard copies of Online Payment/BG for EMD.

DD for transaction fee, hard copies of uploaded documents within the stipulated time the Tenderer will be suspended disqualified from participating in the tenders on 'e-procurement platform' for a period of 12 months from the date of bid submission. The suspension of Tenderer shall be automatically enforced by the e-procurement system.

(As per G.O.Ms. No.6 I&CAD (PW-Reforms) Dept., dt.11.1.2005 and G.O.Ms.No. 245 I&CAD (PW-Reforms) dept., dt. 30.12.2005)

Action to be taken against the lowest bidder, who back out at the time of Agreement, the Contract Registration will be suspended for a period of One year duly forfeiting the E.M.D. as per G.O.Ms.No.259, T.R&B (Roads-V) Dept., dt.06.09.2008

Eligibility criteria for opening the Price Bid:

- i. Copies of documents relating to certification mentioned in the Notice Inviting Tender, and also Registration of the firm, Partnership deed, Articles of Association etc. if any.
- ii. Copy of GST Registration
- iii. Permanent Account Number i.e. (PAN) Card.
- iv. EMD in the form of Online Payment/BG as prescribed (Scanned copy).
- v. Copy of latest Income Tax returns i.e. for AY 2022-23 submitted to IT Dept. along with proof of its submission.
- vi. Liquid assets and / or credit facilities of not less than Rs.2.0 Crores (Credit facility/ letter of credits / Solvency certificates from Banks etc).
- vii. Details of the existing commitments i.e., work on hand and works for which tenders are submitted.
- viii. Information regarding any litigation with Government during the last five years, in which the bidder is involved (Litigation History) should be furnished. If there is no litigation history, a NIL report should be submitted.
- ix. The bidder shall be required to furnish a declaration stating that the scanned copies uploaded by them are genuine. Any incorrectness / deviations noticed in the certificates will be viewed seriously and apart from cancelling the work duly forfeiting the EMD, Criminal action will be initiated including suspension of business.
- x. The Bidder should declare the availability of the Key personnel for execution of the work.

The price-bids of such bidders, who are determined to have complied with the eligibility criteria, and approved by the HGCL will only be opened.

If the office happens to be closed on the dates specified above, the respective activity will be performed at the designated time on the next working day without any notification.

Any other details can be had from the Office of the Chief General Manager, HGCL at Nanakramguda.

The CGM, HGCL reserves the right to reject the tenders without assigning any reasons.

Transaction fess payable to TSTS.

The service charges payable to **TSTS** at the time of submission of E-tender is as indicated below:

The participating bidders will pay transaction fee at 0.03% of ECV (Estimated Contract Value) + applicable GST on 0.03% of ECV (The ceiling amount of transaction fee for works costing ECV up to Rs. 50.00 Crore is Rs. 10,000/- and for works costing ECV above Rs. 50.00 Crore the ceiling amount of transaction fee is Rs. 25,000/-).

GST as levied by the Government of India on transaction fee if any, electronic payment gateway charges are to be borne by the bidders.

**Charges payable to TSTS towards corpus fund:**

The successful bidder will pay further fee at 0.03% of ECV (Estimated Contract Value) payable to Managing Director, TSTS (The ceiling amount of transaction fee for works costing ECV up to Rs. 50.00 Crore is Rs. 10,000/- and for works costing ECV above Rs. 50.00 Crore the ceiling amount of transaction fee is Rs. 25,000/-) to create a e-procurement corpus fund to be administered by TSTS.

The above fee is payable by the successful bidder through a DD drawn in favour of Managing Director, TSTS, Hyderabad at the time of conclusion of the agreement. The said DD shall be sent to Managing Director TSTS by the Chief General Manager (T) who is entering into agreement with the successful bidder.

### 3. DEFINITIONS

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

**"Abandon"** means the cessation of the Maintenance of the Toll Management System in such a manner that indicates an intention to cease Maintenance of the Toll Management System for a contract period of 18 months, other than cessation arising out of Force Majeure.

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

**"Application"** or **"System"** refers to software that deployed to meet the requirements of HGCL as specified in the scope of work/Functional Requirement 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 HGCL.

**"Authorized User"** means any individual (including Personnel of any member of the HGCL, Contractor or any Other Supplier) who is authorized, from time to time and whether on an individual or on a standing basis, to access or use the Toll Management System.

**"Authority / Client / Employer / Purchaser/Grantor"** shall mean the Hyderabad Growth Corridor Limited (HGCL).

**"Bidder"** means a firm which participates in the tender and submits its proposal in response to this Bid.

**"Bid Security"** means the security submitted by the Contractor 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 Day"** means a day (other than Sunday or any National Holiday) when HGCL is open for business.

**"Central Office"** means the Project Office described as the HGCL Office in Hyderabad (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 or Hardware during the Maintenance 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.

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

**"Concessionaire" or "Contractor"** has the meaning given to it in the recitals of this Contract.

**"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 Contractor receives the notice to commence the work issued by HGCL.

**"Contract"** shall mean & include Bid, Notice for Inviting Tender (NIT), the tender documents and letter of acceptance thereof and the formal agreement, to be executed between HGCL and the Contractor 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.

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

**"Data Center"** means the facility that is used for storing data from all the Toll Plazas.

**"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 Contractor 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 Contractor for provision to Grantor in the course of performing the Maintenance Services 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.

**"Grantor"** means HGCL, or any agency deputed by HGCL, that shall grant to the Contractor the rights to maintain the System as per conditions specified in this Bid.

**"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.

**"Lane Operator"** refers to the agent appointed by HGCL, or toll operating agency, or Toll Contractor responsible for operations at the Toll Plaza.

**"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 HGCL 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.

**"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.

**"Toll Management System"** means:

Servers, hardware and other equipment (including firmware);

Operating systems software, middleware and any other non-application software (including virus detection, intrusion detection and data loss prevention software);

- a. third party licensed software that provides the core functionality required to meet the requirements for the Application; and
- b. 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.

**"Toll Management System Hardware"** means modern information technology hardware equipment (including servers, workstations, networking equipment and printers) to be maintained by the Contractor under this Contract.

**"KPI Deductions"** means the amounts payable by the Contractor to the Grantor pursuant to Minimum Performance Specifications and Standards for Maintenance of the Toll Management System and as set out in this Bid 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.

**"Local Currency"** means the Indian Rupees

**"Major Problem Review"** means a review of the response and management of Problems to develop future learning's 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 Contractor 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 Contractor must comply with in undertaking its other obligations under this Contract.

**"Maintenance"** includes the Maintenance of the Toll Management System as per this Contract and the following services (and all related tasks and activities) in relation to each element of the Toll Management System:

- a. adaptive maintenance services;
- b. corrective maintenance services;
- c. perfective maintenance services;

general systems support services (including the provision of technical support, technical advice and technical assistance to Authorized Users for the Toll Management 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 Toll Management System and so as to ensure that:

- a. elements of the Toll Management System are current in relation to the Grantor's business requirements, technology architecture and performance requirements;
- b. the Toll Management 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 Toll Management 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 HGCL or Bidder individually and **"Parties"** shall mean HGCL 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 Contractor 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 Maintenance of the Toll Management System and the performance and observance of each of the Contractor's obligations pursuant to or contemplated by this contract Agreement, including as set out in this Bid.

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

- a. all data provided to or created by the Contractor pursuant to this Contract;
- b. all project information created or in the possession or control of the Contractor;
- c. all Intellectual Property Rights;
- d. all Toll Management System Hardware, tools, equipment and spares;

**"Project Offices"** shall refer to HGCL Office.

**"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 Contractor, 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 Maintenance of the Toll Management System), from any Government Authority or third party

**"Relevant Rules and Procedures" means:**

the regulations of the Government of India in effect during the Concession / Contract Period and any Legal Requirement governing the activities of the Contractor and/or the Grantors or applicable to this Concession Agreement and/or the Project;

- a. 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;
- b. all Relevant Consents and all conditions applicable thereto; and 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.

**“BID”** shall mean, Tender Document or Bidding Document including the written clarifications & Corrigendum/Addendum issued by HGCL in respect of the Bid.

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

**“Quantities”** The Tenderer shall make himself completely acquainted with all conditions, obligations, specifications, drawings and other requirements under the Contract before quoting his rate and prices and Tender Total. He shall have no right to claim any revision to the rate and prices and Tender Total offered by him on the basis of ignorance of the Tender Documents or location conditions, or to make any claim with regard to the rate and price and Tender Total.

**“As-Built Drawings”**

“The As-Built Drawings submitted by the Contractor shall, if required, be updated by him during the maintenance Period and re-submitted for review by the Employer’s Representative. And after accepted by the Employer’s Representative, the Contractor shall resubmit to the Employer’s Representative one microfiche copy, one full-size original copy and six printed copies of the relevant updated As-Built Drawings.”

As-Built Drawings of Existing TMS are available with HGCL. If any updates are incorporated in the TMS system during the maintenance period by the maintenance agency, one set of As-Built Drawings need to be submitted by the Maintenance agency. Cost of six printed copies will be reimbursed as per actual on production of original bills.

**“Services”** means requirements defined in this Request for Proposal including all additional services associated thereto to be delivered by the Contractor.

**“Service Provider”** means the Successful Bidder/Contractor who has executed the contract with HGCL and has complied with other requirements as specified in this Bid to the satisfaction of HGCL

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

**“Operation and Maintenance Manuals”** “The Operation and Maintenance Manuals and drawings submitted by the Contractor shall, if required, be updated by him during the maintenance Period and re-submit for review by the Employer’s Representative.”

Operation and Maintenance Manuals of Existing TMS are available with HGCL. If any updates are incorporated in the TMS system during the maintenance period by the maintenance agency, one set of Operation and Maintenance Manuals need to be submitted by the maintenance agency.

**Engagement of Staff and Labour** “The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.”

**PART – II: SCHEDULE OF THE TENDER (KEY DATES)**

1)	Date of Bid Notice	:	09.12.2022
2)	Date for Tender Document downloading starts	:	09.12.2022
3)	Last date and time for submission of Tenders	:	27.12.2022 @ 3.00 PM or 15:00 Hrs IST
4)	Date and time of opening of Technical Bids	:	27.12.2022 @ 3.30 PM or 15:30 Hrs IST

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**PART – III: INSTRUCTIONS TO BIDDERS (ITB)****3. BID CONDITIONS****3.1. Introduction**

The Bidders are invited to submit Technical, and Financial Proposals (collectively called as “The Proposal”), as specified in this Bid, for maintaining “HGCL’s Toll Management System (TMS)”. 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.

The Bidders shall submit the proposal as per criteria laid down in the Bid. 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 of Rs. 5,000/- shall be submitted, as a part of the proposal, in the form of Bank Draft of from a scheduled Indian Bank approved by RBI drawn in favour of “Hyderabad Growth Corridor Limited” payable at Hyderabad, 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 as per format prescribed in the Bid, as a part of the proposal, in the form of a Demand Draft / Bank Guarantee, from a scheduled Indian Bank approved by RBI drawn in favour of “Hyderabad Growth Corridor Limited”, valid up to 120 days from the date of receipt of proposal, payable at Hyderabad. Proposals not containing the earnest money deposit will be rejected.

HGCL 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 HGCL. The Bidder’s Bid Security including successful bidder shall be returned on the request of the Bidder, without any interest, post the Successful Bidder signing the contract and furnishing the Performance Bank Guarantee in accordance with provisions of the Bid and contract.

HGCL will be entitled to forfeiture and appropriation of the bid security as mutually agreed loss and damage payable to HGCL in regard to the Bid without prejudice to the HGCL’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 Bid

(including the Standard Form of Contract);

- (ii) If any Bidder withdraws its Proposal during the period of its validity as specified in this Bid 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 Bid or is found to have made a false representation to HGCL.

### **3.3 GENERAL**

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

- a. HGCL 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, HGCL 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 HGCL for, inter alia, time, cost and effort of HGCL, in regard to the Bid, including consideration and evaluation of such Bidder’s Proposal.
- b. HGCL 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. HGCL 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 Bid, 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 HGCL 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 HGCL, 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 HGCL 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 HGCL, 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 HGCL 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 HGCL 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 Bid, HGCL 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, HGCL 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 HGCL, the supplemental information sought by HGCL 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 HGCL reserves the right to consider the next best Bidder, or take any other measure as may be deemed fit in the sole discretion of HGCL, 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 HGCL or any other costs incurred in connection with or relating to its Proposal. The HGCL 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 HGCL, 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 HGCL, furnish such clarification to the satisfaction of HGCL 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 HGCL 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 Bid;

- accepted the risk of inadequacy, error or mistake in the information provided in the Bid or furnished by or on behalf of HGCL;
  - 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) HGCL 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 Bid or the Selection Process, including any error or mistake therein or in any information or data given by HGCL and/ or its advisors.

### **3.4 Site Visit**

- a. The tenderer is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Tender and entering into a Contract for the Works. The costs of visiting the Site shall be at the tenderer's own expense.
- a. The tenderer and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, its personnel and agents, will release and indemnify the Employer and his personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection. Upon entering the Employer's premises and lands, the tenderer hereby agrees that such release and indemnity is so provided.

**ELIGIBILITY CRITERIA OF THE FIRM**

<b>Sl. No.</b>	<b>Eligibility Criteria</b>	<b>Documentary Proof</b>
1.	The Bidder for a period of 15 years- The Bidder should be an entity operating in the field of Tolling Systems / Advanced Traffic Management System / ICT for more than 10 years from bid document date.	<ul style="list-style-type: none"> <li>• Firm Registration Certificates</li> <li>• Certificate of Incorporation</li> <li>• Memorandum of Association &amp; Articles of Association.</li> </ul>
2.	The bidder should an average annual financial turnover of Rs 15 Cr during the last 3 Financial years viz. 2019-2020, 2020-21, 2021-22.	<ul style="list-style-type: none"> <li>• Audited Balance sheets.</li> <li>• Certificate from statutory Auditor confirming turnover.</li> </ul>
3.	The bidder should have <b>Solvency/Net Worth</b> of Rs. 2.0 Cr.	<ul style="list-style-type: none"> <li>• Certificate from Banker</li> </ul>
4.	TMS Experience: TMS Experience in last 10 years – installation or maintenance experience of 150 Hybrid ETC with RFID lanes (Closed Loop Distance Based Tolling, similar like ORR Toll Project)	<ul style="list-style-type: none"> <li>• Purchase order</li> <li>• Work completion certificate</li> <li>• For Ongoing Projects. A certificate from client stating Project Go Live certificate / 80% Completion of Scope of Work as per contract should be provided.</li> </ul>
5.	The bidder should not have been blacklisted, barred or engaged in any litigation with any Government body or any Organization operated by Government body (NHAI, IHMCL, MORTH etc.) in last 5 years.	<ul style="list-style-type: none"> <li>• Undertaking</li> </ul>
6.	The bidder, in the last three financial years have neither been a loss making company nor been in the list of Non Performing Asset (NPA) and / or Corporate Debt Restructuring (CDR) and / or Strategic Debt Restructuring (SDR) and/or should not have received any order from National Company Law Tribunal (NCLT) of insolvency process.	<ul style="list-style-type: none"> <li>• Undertaking</li> </ul>
6.	Key Certifications The Bidder shall have following valid Certifications at the time of Bidding. <ul style="list-style-type: none"> <li>• ISO 9001:2008/9001:2015</li> <li>• ISO 20000:2011 for IT Service Management or equivalent certification</li> <li>• ISO 27017:2015 for Information Technology Security Techniques</li> <li>• CMMI Level 3</li> </ul> Note: All above certificates shall be issued minimum 6 months prior to bid submission date else certification shall not be deemed valid.	<ul style="list-style-type: none"> <li>• Copies of valid certificates at the time of bidding.</li> </ul>

**Notes to Eligibility Criteria:**

- For the purpose of Eligibility Criteria, credentials of the bidding entity only will be considered. Credentials of any parent, subsidiary, associate or other related entity will not be considered.
- The existing Toll Collection Agency or its sister concerns are not allowed to participate in the TMS Maintenance Tender. Similarly the TMS Maintenance agency will not be allowed to participate in Toll Collection tender during the contract period.
- As per format in Annexure 8, the Net worth certificate to be obtained from statutory Auditor. However, Net worth certificate given by Banker is also acceptable.

## PART IV. EVALUATION CRITERIA

### 4.1. Evaluation of Technical Proposals:

In the first stage, the Technical Proposal will be evaluated on the basis of Applicant's experience and other criteria mentioned in the eligibility criteria. The financial bid of the above eligible bidder is opened on responsiveness criteria and work will be awarded to the lowest bidder (L1) based on the financial quote for a period of 18 months.

1. Firm Registration Certificates
2. Average Annual Turnover of Rs.15 Cr. in last 3 financial years
3. TMS Experience in last 10 years –installation or maintenance experience of 150 Hybrid ETC with RFID lanes (Closed loop Distance Based Tolling, similar like ORR Toll Project) in a single project.
4. Solvency/Net worth of Rs. 2.0 Cr.
5. Key Certifications

The Bidder shall have following Certifications valid at the time of Bidding.

- ISO 9001:2008/9001:2015
- ISO 20000:2011 for IT Service Management or equivalent certification
- ISO 27017:2015 for Information Technology Security Techniques
- CMMI Level 3

**4.2. Conditions of Eligibility for Key Personnel:** Each of the Key Personnel must fulfill the Conditions of Eligibility specified below:

Key Personnel	Educational Qualification	Length of Professional Experience	Similar Experience
Chief Maintenance Engineer	Graduate in Electronics/Information Technology/Systems Engineering/Computer	15 years	He should have minimum five (5) years of experience in the maintenance of such system as team leader / project manager / equivalent position.
Electrical Engineer	Graduate in Information Technology, Electronics, Electrical Engineering, or Systems Engineering	10 years	He should have minimum five (5) years of experience in the maintenance of electronic and electrical devices.

### **4.3. Tender opening**

The Technical bids will be opened online by the Chief General Manager, HGCL at the time and date as specified in the tender documents. All the Statements, documents, certificates, Online Payment/BG etc., uploaded by the Tenderers will be verified and downloaded, for technical evaluation. The clarifications, particulars, if any, required from the bidders, will be obtained either online or in the conventional method by addressing the bidders. The technical bids will be evaluated against the specified parameters / criteria same as in the case of conventional tenders and the technically qualified bidders will be identified. The result of Technical bids evaluation will be displayed on the 'e'market place, which can be seen by all the Tenderers who participated in the Tenders.

The department shall carry out the technical bid evaluation as per criteria mentioned in the Bid Document solely based on the uploaded certificates/documents, Online Payment/BG towards EMD in the e-procurement system and open the price bids of the Technically qualified bidders.

### **4.4. Clarification on the Technical Bid.**

The tender opening authority may call upon any Tenderer for clarification on the statements, documentary proof relating to the technical bid, which were uploaded in the E-procurement. The request for clarification and response thereto shall be in writing and it shall be only on the qualification information furnished by the Tenderer. The clarification called for from the Tenderers shall be furnished within the specified time.

The Tenderer, if so desirous, shall agree in writing to furnish the clarification called for within the specified time and, for disqualification and rejection of his tender in the event of failure to do so.

### **4.5. Examination of Technical Bids and Determination of Responsiveness**

The Chief General Manager (T) will evaluate whether each Tenderer is satisfying the eligibility criteria prescribed in the tender document and declares them as a qualified Tenderer.

If the Technical Bid of a Tenderer is not satisfying any of the eligibility criteria it will be rejected by the Chief General Manager (T). If any alteration is made by the original Tenderer in the tender documents, the conditions of the contract, the drawings, specifications or statements / formats or quantities the tender will be rejected.

#### **4.5. Price Bid Opening:**

At the specified date and time, the price bids of all the technically qualified bidders will be opened online by the Chief General Manager (T) and the result will be displayed on the E-procurement.

Only the price bids of qualified Tenderers whose technical bids are found satisfying the eligibility criteria shall be opened.

Tenders shall be scrutinized in accordance with the conditions stipulated in the Tender document. In case of any discrepancy or non-adherence conditions the Tender accepting authority shall communicate the same which will be the binding both on the tender opening authority and the Tenderer. In case of any ambiguity, the decision taken by the HGCL on tenders shall be final.

#### **4.6. Evaluation and Comparison of Price Bids**

The HGCL will evaluate and compare the price bids of all the qualified Tenderers. Negotiations at any level are strictly prohibited. However, good gesture rebate, if offered by the lowest Tenderer prior to finalization of tenders may be accepted by the tender accepting authority. Selection of Tenderer among the lowest & equally quoted tenderers will be in the following orders: In such case the Tenderer whose annual turnover is more will be preferred.

#### **4.7. PREPARATION OF PROPOSAL**

- a) Bidders are requested to upload their Proposal in English language, and strictly in the formats provided in this Bid. HGCL will evaluate only those Proposals that are received in the specified formats and complete in all respects.
- b) In preparing their Proposal, Bidders are expected to thoroughly examine the Bid 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 Bid 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 Bid, no supplementary material will be entertained by HGCL, 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, HGCL 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, custom duty, handling charges etc., except the **Goods and Services Tax (GST), Insurances in respect of Equipments, Labour** which shall be paid as per actual. 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 subject to any assumption, and shall be final and binding.
  - (iii) The Financial proposal should be quoted on E-procurement portal
  - (iv) Bidders shall express the price in Indian Rupees.
  - (v) Bidders must do their due diligence about the tax implications and HGCL will not be liable for any incident.
- h) The Proposals must remain valid for a period of 90 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 HGCL 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 HGCL.

## **4.8. SUBMISSION AND OPENING OF PROPOSALS**

### **4.8.1. Submission of Bids**

HGCL has adopted the following process (referred to as the "Bidding Process") for

selection of the qualified Bidder. All required documents shall be submitted on E-procurement portal. Only the documents are to be submitted physically i.e., Original copies of Document Fee (D.D), EMD (Online payment /B.G) and Power of Attorney, which were uploaded the scanned copies have to be submitted at the following address after closing of Tender within three days.

The Chief General Manager (T),  
Hyderabad Growth Corridor Limited.  
HGCL Office Building, 2nd Floor, Khajaguda road,  
Adjacent to ORR, Nanakramguda, Hyderabad 500 104

Any effort by the firm to influence HGCL during the Proposal evaluation, Proposal comparison or contract award decisions may result in the rejection of the Bidder's proposal.

#### **4.8.2. EVALUATION OF BIDS**

- i. Any time during the process of evaluation, HGCL 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 HGCL.

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

The following documents shall be verified as part of evaluation

- a) **EMD / Bid Security: Copy** of the EMD / Bid Security and all the documents shall require being as per format prescribed in the Bid. 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 any Physical Documents submitted other than uploaded by the Bidder shall be summarily rejected.**

The Bidder shall furnish, as part of the Bid, Earnest Money Deposit (EMD) for an amount as mentioned in the NIT. The Bidder's EMD will be returned, without any interest. The Successful Bidder has to furnish the Performance Security (B.G format prescribed by HGCL) for signing of the Contract in accordance with the provisions thereof.

The Earnest Money shall be in the form of a Online payment / Bank Guarantee drawn in favour of "**Hyderabad Growth Corridor Limited**" on any Scheduled bank authorized by RBI, payable at Hyderabad.

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.

**b) Other documents as specified in the Bid**

The Technical Bids will be evaluated by HGCL. The Bidder shall have to fulfill all the Eligibility Criteria as specified in the Bid. The Bidder shall have to submit all the required documents and forms specified as per **Annexures**. 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, HGCL shall determine as to whether each bid is responsive to the requirements of this Bid document. ***A bid will be declared non-responsive in case:***

- a. If a bidder submits a conditional bid or makes changes in the terms and conditions given in this Bid document
- b. Failure to comply with all the requirements of Bid document by a bidder
- c. If the financial quote is submitted is found in Technical submission.
- d. 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.
- e. The bid contains any pre-condition, assumption or qualification.

Based upon the evaluation of uploaded documents and the conditions specified in the Bid, HGCL shall open the Financial Bids of the Technical Qualified Bids.

**iii. Phase-2: Technical Evaluation**

Only those Bidders who meet all the Eligibility Criteria as set out in Section shall be considered for further process.

**iv. Phase-3: Financial Bid Evaluation:**

- a) The Financial Bid of all the Technically Qualified Bidders will be opened by HGCL.
- b) Financial Bid of the Bidders would be evaluated on the basis of the “Total Proposal Price” quoted.
- c) The financial bid shall have to be quoted on E-procurement portal only. Financial bid of bidders received in any other forms shall be summarily rejected.
- d) The Bidder quoted lowest price (L-1) will be selected as Successful Bidder.
- e) Tender Percentage to be quoted by the bidder.



## **PART V. AWARD OF CONTRACT**

### **5.1. Award Criteria**

The Chief General Manager (T) will award or recommend to the competent tender accepting authority for award of the contract to the Tenderer who is found technically qualified as per the Tender conditions and whose quoted price is lowest (L-1).

The tender accepting authority reserves the right to accept or reject any Tender or all tenders and to cancel the Tendering process, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the reasons for such action.

### **5.2. Notification of Award and Signing of Agreement.**

The Tenderer whose Tender has been accepted will be notified by issuing a Letter of Acceptance (LOA) of the award of the work by the Chief General Manager (T), prior to expiration of the Tender validity period. This letter (hereinafter and in the Conditions of Contract called “Letter of Acceptance”) will indicate the sum that the Government will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the “Contract Amount”).

When a tender is to be accepted the concerned Tenderer shall attend the office of the Chief General Manager (T) concerned on the date fixed in the Letter of acceptance. Upon intimation being given by the Chief General Manager (T), of acceptance of his tender, the Tenderers shall make payment of the balance E.M.D., and additional security deposit wherever needed by way of Online Payment or unconditional and irrevocable Bank Guarantee obtained from a **Nationalized/Schedule Bank**, and sign an agreement in the form prescribed by the department for the due fulfillment of the contract. Failure to attend the Chief General Manager’s office on the date fixed, in the written intimation, to enter into the required agreement shall entail forfeiture of the Earnest Money deposited.

The written agreement to be entered into between the contractor and the Government shall be the foundation of the rights and obligations of both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by the contractor and then by the proper officer authorised to enter into contract on behalf of the Government.

The successful Tenderer has to sign an agreement within a period of 15 days from the date of receipt of communication of acceptance of his tender. On failure to do so his tender will be cancelled duly forfeiting the E.M.D., paid by him without issuing any further notice and action will be initiated for black listing the Tenderer.

### **5.3. Corrupt or Fraudulent Practices**

The Government requires that the bidders / suppliers / contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Government

- (a) define for the purposes of the provision, the terms set forth below as follows:
- (b) “corrupt practices” means the offering, giving, receiving or soliciting of anything of value to influence the action of a Government official in procurement process or in contract execution: and
- (c) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish in Tender prices at artificial non-competitive levels and to deprive the Government of the benefits of free and open competition.
- (d) Will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- (e) Will blacklist / or debar a firm, either indefinitely or for a stated period of time, if at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a Government Contract.
- (f) Furthermore, Tenderers shall be aware of the provisions stated in the General Conditions of Contract.

### **5.4. IMBALANCED BID:**

If the Bid of the Successful Bidder is seriously imbalanced (i.e., more than 25%) in relation to HGCL's estimate of the cost of work to be performed under the Contract, HGCL 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, HGCL may require that the amount of the Performance Bank Guarantee set forth in the Bid be increased and an additional Performance Bank Guarantee may be obtained at the expense of the Successful Bidder to a level sufficient to protect HGCL 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.

### **5.5. 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 HGCL's processing of Bids or award decisions may result in the rejection of his Bid.

## 5.6. AWARD OF CONTRACT

- a) After selection, a Letter of Award (the "LOA") will be issued by HGCL to the Successful Bidder and the Successful Bidder shall, within three (7) 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 HGCL 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 / if L2 not agreed to perform with L-1 cost, Tender shall be cancelled.
- b) **Performance Bank Guarantee:** Performance Bank Guarantee for an amount equal to 10% of the quoted price 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 prescribed by HGCL and will be valid for a period of 30 months and shall be extended further one year period, if the contract extends for further one year. For the successful bidder the Performance Bank Guarantee will be retained by HGCL 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 three (3) days. 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, HGCL 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 HGCL.
- d) **Commencement of Services:** The Successful Bidder is expected to **commence the Services after signing of Contract Agreement duly following the procedure informed by HGCL.** If the Successful Bidder fails to sign the Agreement, HGCL may invite the second lowest cost (i.e. L2 as per rates quoted by L1 bidder) 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.

## 5.7. PAYMENT TERMS

- a) During the Contract Period, the Contractor will be entitled to following payments only in Indian Rupees (INR):
- i. Quarterly Payments will be made on monthly pro-rata rate basis on total contract agreement price after receiving the invoices and on completion of the each quarter.
  - ii. Except as set out in this Section, the Contractor will have no claim or entitlement whatsoever to revenue or any other payment under or pursuant to this Bid / Agreement whether from the Grantor or from any third party. In case the Contract is terminated, the parties shall bear charges as per definition in the following section (Financial Consequences of Termination).
  - iii. “All bank charge shall be borne by the Contractor.”
  - iv. Tax deductions will be made at source as per statutory requirement from every payment made to the Contractor at rates notified from time to time.
  - v. 1% Labour Cess as applicable

## 5.8. 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 Maintenance Service Cost] and will be valid for a period of 30 months.
- b) The Successful Bidder shall within Seven (07) days of the issue of LOA or such time as indicated by HGCL furnish Performance Bank Guarantee, by way of an irrevocable Bank Guarantee, in favour of “Hyderabad Growth Corridor Limited”, payable at Hyderabad.
- c) Format for Performance Bank Guarantee is provided in Annexure 11: Format for Performance Bank Guarantee of this Bid.
- 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.

## 5.9. BANK GUARANTEE (BG)

The Bank Guarantee in the name of HGCL and as per format provided by the HGCL would only be accepted

## **5.10. CORRUPT OR FRAUDULENT PRACTICES**

HGCL 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.

HGCL will declare the Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract by HGCL 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 HGCL 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 HGCL 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 HGCL of the benefits of free and open competition.

## **5.11 Clarification on Tender Documents**

- a. A prospective Bidder requiring any clarification on Tender documents may contact the Tender Inviting Officer at the address indicated in the NIT. The Tender Inviting Officer will also respond to any request for clarification, received.

### **Amendment to Tender Documents**

- b. Before the last date for submission of Tenders, the Tender Inviting Officer may modify any of the Contents of the Tender Notice, Tender documents by issuing amendment / Addendum.
- c. Any addendum/amendments issued by the Tender Inviting Officer shall be part of the Tender Document and it shall be kept in online.
- d. To give prospective Tenderers reasonable time to take an addendum into account in preparing their bids, the Tender Inviting Officer may extend if necessary, the last date for submission of tenders.

## **5.12. MISCELLANEOUS**

- a) The Selection Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Hyderabad shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process. HGCL, 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 HGCL 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 -VI. CHECK LIST****DOCUMENTS TO ACCOMPANY THE TENDER**

(The Bidders are requested to read the Bidding conditions carefully before up loading these Documents)

S.No	Description	Submitted in Cover 'A'	Page No. (see Note below)
1	2	3	4
1	Relevant Registration Certificate of the Firm	Yes / No	
2	Copy of GST Registration.	Yes / No	
3	Copy of PAN	Yes / No	
4	Proof of Cost of Bid Document (D.D)	Yes / No	
5	Proof of EMD (Online Payment / BG (Scanned copy)	Yes / No	
6	Latest Income Tax returns submitted along with proof of submission.	Yes / No	
7	Proof of liquid assets in the shape of Solvency certificates etc., for the required amount.	Yes / No	
8	Details of existing commitments with Supporting Certificates.	Yes / No	
9	Declaration on availability of Key personnel as per proforma	Yes / No	
10	Declaration on Litigation history as per proforma	Yes / No	
11	Declaration towards genuineness of the certificates as per proforma.	Yes / No	
12	ISO Certificates	Yes / No	

**Note:**

- The information shall be filled-in by the Tenderer in the checklist and the declarations shall be enclosed to the Technical bid for the purposes of verification as well as evaluation of the Tenderer's Compliance to the qualification criteria as provided in the Tender document. All the Certificates, documents, statements / declarations as per checklist shall be uploaded.
- As per the directions issued by the Government in GO MS No.174 I&CAD (PW-REFORMS) dated 1.9.2008, submission of original hard copies of the uploaded scan copies of Online Payment/BG towards EMD by participating bidders to the tender opening authority before opening of the price bid is dispensed with. All the bidders shall invariably upload the scanned copies of Online Payment/BG in e-procurement system will be the primary requirement to consider the bid as responsive. The Department shall carry out the technical bid evaluation solely based on the uploaded certificates/documents, Online Payment/BG towards EMD and open the price bids of the responsive bidders. The Department will notify the Successful bidder for submission of original hard copies of all uploaded documents, Online Payment/BG towards EMD prior to entering into agreement. If any successful bidder fails to submit the original hard copies towards EMD and other

documents with in the stipulated time, the successful bidder will be suspended from participating in the tenders on e-procurement for a period of three years. The e-procurement system will deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the tender inviting authority and also criminal prosecution shall be invoked.

**ANNEXURE 1**  
**INFORMATION ON LITIGATION HISTORY**

S. No	Case No. / Year	Court where filed.	Subject Matter / Prayer in the case.	Respondents i.e., SE / CE	Present Stage.
1	2	3	4	5	6

**Signature of the Tenderer**

**Note**: A Nil report shall be furnished if there is no litigation history.

**ANNEXURE 2**

**DECLARATION ON GENUINENESS OF THE CERTIFICATE**

I / We ..... have gone through carefully all the Tender conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or determination of contract or any other action deemed fit, taken by, the Department against us, if it is found that the statements, documents, certificates produced by us are false / fabricated.

I / We hereby declare that, I / We have not been blacklisted / debarred / Suspended / demoted in any department in Telangana state or in any State due to any reasons.

Signature of the Tenderer

**ANNEXURE 3**  
**FORM OF TENDER**

Date: .....

To  
The Chief General Manager (T),  
HGCL.

Sir,

I/We have agreed to execute the work when the lumpsum payment under the terms of the agreement is varied by payment on measurement /service levels maintenance specification.

I/WE agreed to keep the offer in this tender valid a period of Three month(s) mentioned in the tender notice and not to modify the whole or any part of it for any reason within above period. If the tender is withdrawn by me/us for any reasons whatsoever, the earnest money paid by me/us will be forfeited to Government

I/WE hereby distinctly and expressly, declare and acknowledge that, before the submission of my/our tender I/We have carefully followed the instructions in the tender notice and the preliminary specifications therein and that I/We have made such examination of the contract documents and the plans, specifications and quantities and of the location where the said work is to be done, and such investigation of the work required to be done, and in regard to the material required to be furnished as to enable me/us to thoroughly understand the intention of same and the requirements, covenants, agreements, stipulations and restrictions contained in the contract, and in the said plans and specifications and distinctly agree that I/We will not hereafter make any claim or demand upon the Government based upon or arising out of any alleged misunderstanding or misconception /or mistake on my/or our part of the said requirement, covenants, agreements, stipulations, restrictions and conditions.

I/WE enclosed to my/our application for tender schedule a crossed demand draft B.G (No.....dated:.....) for Rs.....as earnest money not to bear interest.

I/We shall not assign the contractor or sublet any portion of the same except the conditions of contract. In case if it becomes necessary such subletting with the permission of the Chief General Manager (T), HGCL shall be limited to (1) Labour contract, (2) Material contract, (3) Transport contract and (4) Engaging specialists for special item of work enjoined.

IF MY/OUR tender is not accepted the sum shall be returned to me/us on application when intimation is sent to me/us of rejection or at the expiration of three months from last date of receipt of this tender, whichever is earlier. If my/our tender is accepted the earnest money shall be

retained by the Government as security for the due fulfillment of this contract. If upon written intimation to me/us by the Chief Engineer's Office, I/We fail to attend the said office on the date herein fixed or if upon intimation being given to me/us by the Chief General Manager (T) or acceptance of my/our tender, and if I/We fail to make the additional security deposit or to enter into the required agreement as defined, then I/We agree the forfeiture of the earnest money.

Any notice required to be served on me/us here under shall be sufficiently served on me/us if delivered to me/us hereunder shall be sufficiently served on me/us if delivered to me/us personally or forwarded to me/us by post to (registered or ordinary) or left at my/our address given herein. Such notice shall if sent by post be deemed to have been served on me/us at the time when in due course of post it would be delivered at the address to which it is sent.

I/WE fully understand that the written agreement to be entered into between me/us and Government shall be the foundation of the rights of the both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by me/us and then by the proper officer authorised to enter into contract on behalf of Government.

I/We agree to pay transaction fee @ 0.03% of ECV (Estimated Contract value) + applicable GST over transaction fee with a cap of Rs.10,000/- (Rupees Ten thousand only) for all works with ECV upto Rs.50.00 cores and Rs.25,000/- (Rupees twenty five thousand only) for works with ECV above Rs.50.00 crores, at the time of bid submission electronically. For tenders wherever ECV is not available, i.e., for goods and services, the transaction fee shall be calculated on quoted value.

I/We agree to pay GST as levied by the GOI on transaction fee if any, electronic payment gateway charges.

I/WE will employ the technical staff for supervising / maintenance of the system as per declaration.

#### **TENDERERS / CONTRACTOR'S CERTIFICATE.**

- (1) I/WE hereby declare that I/We have perused in detail and examined closely the Telangana Standard Specifications, all clauses of the preliminary specifications with all amendments and have either examined all the standards specifications or will examine all the standard specifications for items for which I/We tender, before I/We submit such tender and agree to be bound and comply with all such specifications for this agreement which I/We execute in the Irrigation & Command Area Development Department.
- (2) I/WE certify that I/We have inspected the site of the work before quoting my Financial Quote,.

- (3) I/WE am/are prepared to furnish detailed data in support of all my quoted rates, if and when called upon to do so without any reservations.
- (4) I/WE hereby declare that I/We will pay an additional security deposit in terms of conditions
- (5) I/WE hereby declare that I am/we are accepting to reject my tender in terms of condition
- (6) I/WE declare that I/WE will procure the required spares of standard make to suite the existing system and to maintain the system in working condition. I/WE shall ensure smooth and un-interrupted working of the system.
- (7) I/We abide to perform as per the service levels mentioned. In the event of failure, I / We abide to recover liquidated damages as per the tender conditions.
- (8) I/WE declare that I/WE will abide for settlement of disputes as per the tender conditions.

**DECLARATION OF THE TENDERER.**

- 1) I/WE have not been blacklisted in any department due to any reasons.
- 2) I/WE have not been demoted to the next lower category for not filing the tenders after buying the tender schedules in a whole year and my/our registration has not been cancelled for a similar default in two consecutive years.
- 3) I/WE agree to disqualify me/us for any wrong declaration in respect of the above and to summarily reject my/our tender.

Address of the Tenderer :

Corresponding Person to Contact:

Phone No.:

E-mail”

**CONTRACTOR.**

**Note:** If the tender is made by an individual, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of the firm shall be given, if the tender is made by a corporation it shall be signed by a duly authorized officer who shall produce with his tender satisfactory evidence of his authorization. Such tendering corporation may be required before the contract is executed, to furnish evidence of its corporate existence. Tenders signed on behalf of G.P.A. holder will be rejected

## ANNEXURE 4

### Covering Letter

(In the letterhead of the Bidder)

To,  
Chief General Manager,  
Hyderabad Growth Corridor Limited,  
HGCL Office Building,  
2<sup>nd</sup> Floor, Khajaguda, Adjacent to ORR,  
Nanakramguda, Hyderabad 500 104

Subject: Selection of Bidder for \_\_\_\_\_

Ref. No. Bid. 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. HGCL 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 Maintenance of Toll Management System for at least 10 years.
- b) **I/We have not been declared ineligible** by HGCL, 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.
- d) We are not a loss making company nor been in the list of Non Performing Asset (NPA) and / or Corporate Debt Restructuring (CDR) and / or Strategic Debt Restructuring (SDR) and/or should not have not received any order from National Company Law Tribunal (NCLT) of insolvency process in the last three financial years from the date of bid submission.

5. I/We declare that our bid is valid for 90 days.

Name .....

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

**ANNEXURE 5**

**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	
ISO level of organization	
Qualifying Projects – value, client, key features	
Average Turnover	
Is Bidder debarred by any Government entity (Yes/No)	
Have received any order from National Company Law Tribunal (NCLT) of insolvency process in the last three financial years(Yes/No)	

5. Financial details/projects meeting the qualifying criteria  
 Name .....  
 Designation/ Title of the Authorized Signatory.....

## **ANNEXURE 6**

### **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

**ANNEXURE 7****BIDDER'S ANNUAL TURNOVER**

Bid Ref \_\_\_\_\_ (Date)

From,

To,

(Name &amp; Address of the Bidder)

Chief General Manager (T),

Hyderabad Growth Corridor Limited,

HGCL Office Building, 2<sup>nd</sup> Floor, Khajaguda,

Adjacent to ORR, Nanakramguda,

Hyderabad 500 104

**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 31<sup>st</sup> March of the previous financial year) is as given below:

Annual Turnover for the last 3 Financial Years (FYs) in Indian Rupees (INR)			
FY (2021-22)	FY 2020-21	FY 2019-20	Average

Yours Sincerely,

**(Signature of Statutory****Auditor) Name of the****Statutory Auditor:****Name of the Statutory Auditor Firm:****Seal:**

**ANNEXURE 8****BIDDER'S NET WORTH/SOLVENCY**

Bid Ref \_\_\_\_\_ (Date)

From,

To,

(Name &amp; Address of the Bidder)

Chief General Manager (T),

Hyderabad Growth Corridor Limited,

HGCL Office Building, 2<sup>nd</sup> Floor, Khajaguda,

Adjacent to ORR, Nanakramguda,

Hyderabad 500 104

**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 31<sup>st</sup> March of the previous financial year) is as given below:

Annual Net worth for the last 3 Financial Years (FYs) in Indian Rupees (INR)			
FY (2021-22)	FY 2020-21	FY 2019-20	Average

Yours Sincerely,

**(Signature of Statutory****Auditor) Name of the****Statutory Auditor:****Name of the Statutory Auditor Firm:****Seal:**

**ANNEXURE 9**

**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 HGCL, representing us in all matters before HGCL, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with HGCL 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 ....., 2020

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 10**

### **FORMAT FOR PERFORMANCE BANK GUARANTEE**

To,

Chief General Manager, Hyderabad Growth Corridor Limited, **HGCL Office Building, 2<sup>nd</sup> Floor, Khajaguda, Adjacent to ORR, Nanakramguda, Hyderabad 500 104**

WHEREAS [Name and address of Agency] (hereinafter called “the Contractor”) has decided to apply to HGCL for providing services, in pursuance of HGCL letter of work award No. \_\_\_\_\_ dated dd/mm/yyyy for “Comprehensive Maintenance of Existing Toll Management System (TMS) at 19 interchanges including Main Traffic Control Center at Nanakramguda and Sub Traffic Control Center at Ghatkesar, on ORR Hyderabad for Two (2) Years” (hereinafter called the “Contract”).

AND WHEREAS it has been stipulated by HGCL in the said letter that the Contractor 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.

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor 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.

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

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

We undertake to pay to the HGCL any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment



there under and the Contractor(s) shall have no claim against us for making such payment.

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

This guarantee shall also be operable at our \_\_\_\_\_ branch at Hyderabad, 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.

- 1. This bank guarantee shall be valid from .....
  
- 2. 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 Hyderabad \_\_\_\_\_  
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 11****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	
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 12**

**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 HGCL of such blacklisting.

Dated this .....Day of  
....., 2020. Name of the Bidder

.....

..... Signature of the  
Authorised Signatory

.....

Name of the Authorized Signatory

**ANNEXURE 13****FORMAT TO PROPOSE LIST OF PROPOSED KEY PERSONNEL**

Position to be held	Name	Nationality	Age	Education	Years of Services in Company	Years of Experience in Toll Management System	Years of Experience in Similar Position
1. Chief Maintenance Engineer							
2. Electrical Engineer							
3. Information Technology Engineer							

Note:

1. Insert University/Academy, High School or Secondary School and year of finishing.
2. Copies of educational qualification and experience certificate of above listed personnel should be attached.
3. Notwithstanding that the Tenderer has proposed the above personnel to be utilized in the performance of the Works; the Contractor agrees that it is his responsibility to provide whatever personnel may be required to fulfill his obligations under the Contract.

**ANNEXURE 14****FORMAT FOR CURRICULUM VITAE (CV) SUBMISSION FOR KEY PERSONNEL**

1	Name of the Staff				
2	Current Designation in the Organization				
3	Proposed Role in the Project				
4	Proposed Responsibilities in the Project				
5	Date of Birth				
6	Education	<b>Degree / Diploma</b>	<b>College / University</b>	<b>Year of Passing</b>	
7	Summary of Key Training and Certifications				
8	Language Proficiency	<b>Language</b>	<b>Reading</b>	<b>Writing</b>	<b>Speaking</b>
9	Employment Record (For the total relevant experience)	From / To:			
		Employer:			
		Position Held:			
		From / To:			
		Employer:			
		Position Held:			
		From / To:			
		Employer:			
Position Held:					
10	Total No. of Years of	•			

	Work Experience	
11	Total No. of Years of Experience for the Role proposed	•
12	Highlights of relevant assignments handled and significant accomplishments (Use following format for each project)	
<b>Project 1</b>		
<b>Name of assignment:</b>		
Year:		
Location:		
Client Name:		
Main project features:		•
Positions held:		
Activities performed:		•
<b>Project 2</b>		
<b>Name of assignment:</b>		
Year:		
Location:		
Client Name:		
Main project features:		•
Positions held:		
Activities performed:		•
<b>Project 3</b>		
<b>Name of assignment:</b>		
Year:		
Location:		
Client Name:		
Main project features:		•
Positions held:		
Activities performed:		•

**ANNEXURE 15**

**FORMAT FOR AFFIDAVIT CERTIFYING NON-NPA, CDR, SDR, UNDER NCLT**

(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 are not a loss making company nor been in the list of Non Performing Asset (NPA) and / or Corporate Debt Restructuring (CDR) and / or Strategic Debt Restructuring (SDR) and/or should not have not received any order from National Company Law Tribunal (NCLT) of insolvency process in the last three financial years from the date of bid submission as on the ..... (Not earlier than 3 days prior to the Bid Due Date)

Dated this ..... Day of .....

....., 2020. Name of the Bidder

.....

.....

Signature of the Authorised Signatory

tory

.....

Name of the Authorized Signatory

**ANNEXURE -16**

**PROFORMA**

**BANK GUARANTEE FOR EARNEST MONEY DEPOSIT**

WHEREAS ..... (Name of the Contractor) (here in after called “the Tenderer”) has submitted his tender response to NIT No..... dated:..... for the work “ .....” (Name of work) (hereinafter called “the tender”).

KNOWN ALL MEN by these present that we ..... (Name and Address of Bank) ..... (hereinafter called “the Bank” are bound unto ..... / (name of the designated PAO) in the sum of \* ..... for which payment will and truly to be made to the said Department, the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the Bank this ..... day of .....202....

THE CONDITIONS of this obligation are:-

- (1) If after Tender opening the tenderer withdraws or modifies his Bid during the period of bid validity specified in the Form of Tender.
- (2) If the Tenderer having been notified of the acceptance of his bid by the Department during the period of validity.
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Tenderers, if required; or
  - (b) fails or refuses to furnish the balance EMD and additional performance Security in accordance with the instructions of Tenderers.

We undertake to pay to the Department up to the above amount upon receipt of his first written demand, without the Department having to substantiate his demand, provided that in his demand the Department will note the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date\*\* ..... after the dead line for submission of Tenders as such deadline is stated in the Instructions to Tenders or as



it may be extended by the Department, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

This guarantee shall also be operable at our \_\_\_\_\_ branch at Hyderabad, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

DATE..... SIGNATURE OF THE BANK .....

WITNESS..... SEAL.....

-----  
(Signature, Name and Address)

-----

- \* The Tenderer should insert the amount of the EMD in words and figures denominated in Indian Rupee. This figure should be the same as shown in the NIT.
- \*\* 6 months from the deadline date for submission of Tender.

@ @ @

## **PART – VII: CONDITIONS OF CONTRACT**

### **APPENDIX 1**

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

#### **7.1 GOVERNING LANGUAGE**

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

#### **7.2. APPLICABLE LAW**

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

#### **7.3. PROJECT SCOPE**

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

#### **7.4. INTERPRETATION**

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

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

#### **7.5. RIGHT TO AMEND PROJECT SCOPE**

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

#### **7.6. PAYMENT TERMS**

- a) Payments will be made in Indian Rupees only as per conditions specified in the Bid under
- b) **Retention Money:** The Employer shall retain retention Money of five (5) percent of the amount from each payment due to the Contractor until Completion of the whole of the Works.

The retention money and the performance security will be released to the Contractor

after the Maintenance Period is over. If any Defects, notified by the Engineer to the Contractor before the end of this period they have to be corrected/rectified/repared by the contractor for necessary release of Retention Money and Performance Security.

**c) Price Adjustment: Deleted**

**7.7. SERVICE LEVEL AGREEMENT (SLA)/ PENALTY/ LIQUIDATE DAMAGES:**

- a) The Contractor shall ensure that the system adheres to the SLAs as specified in MINIMUM PERFORMACE SPECIFICATIONS AND STANDARDS

**7.8. PRICES:**

- a) GST as applicable, which will be levied on the goods and services invoiced by the Maintenance agency to HGCL, will be reimbursed on actual basis.
- b) HGCL reserves the right to ask the Maintenance agency 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 HGCL, for any purpose with HGCL's Officials at HGCL's Head Office or elsewhere, prior, during or after the conduct of an assignment.
- e) Prices quoted by the bidder shall be excluding GST, Labour Cess and Insurance (for Manpower and Equipment).

**7.9. CONTRACT PERIOD:**

The total Contract Period ("Contract Period") of the Project is 18 Months.

Upon satisfactory completion of 18 months, HGCL may consider to extend the contract for year with 10% enhancement on pro-rata basis per month of the Contract, subject to Bidder adhering with the conditions specified under this agreement.

**7.10. INSURANCE**

The details of valid insurance policies are provided in Attachment 7 these policies shall be renewed by the contractor before expiry. The expenditure towards renewal of these polices will be reimbursed by HGCL as per actual as provided.

**7.11. INSURANCE FOR THE PERSONNEL DEPLOYED:**

Under the law for the time being in force, the Contractor shall arrange adequate insurance to cover each of its personnel deployed against any type of accidents engaged by the Contractor.

**7.12. INSURANCE FOR EQUIPMENTS:**

The contractor 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. The contractor may renew the present policies for the equipment in TMS project and the insurance shall cover equipment and cables to be maintained under this contract during their tenure. The responsibility of all the insurance claims of the equipments shall dealt by the contractor only.

### **7.13. ACCESS TO DATA**

The Contractor must provide the Grantor access to any part of Grantor's Data, including any raw data in the possession of the Contractor, at any time upon the Grantor's request.

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 Contractor) for any purpose or reason it requires, at its absolute discretion.

- a) The Contractor shall maintain appropriate administrative, physical, and technical safeguards for protection of the security, confidentiality and integrity of Grantor's Data. The Contractor shall not
  - i. modify Grantor's Data,
  - ii. Disclose Grantor's Data except as compelled by law in accordance or as expressly permitted in writing by Contractor.
- b) Grantor will own all the data of TMS.

### **7.14. PRIVACY**

- a) The Contractor 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 Contractor must comply with); and
  - ii. Grantor customer privacy and data protection policies and standards as notified to the Contractor by the Grantor from time to time in writing.
- b) Where the Contractor appoints a Data Centre Operator, the Contractor 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.

### **7.15. 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 Contractor shall promptly notify HGCL in writing of such condition and the cause thereof. Unless otherwise directed by HGCL, the Contractor 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 30 days, either Party may terminate the Contract.

#### **7.16. INDEMNIFICATION**

- a) The Contractor shall indemnify, defend, save and hold harmless, HGCL and their officers, servants, agents (hereinafter referred to as the “HGCL 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 Contractor’s obligations under this Contract or any other related agreement or otherwise, any fraud or negligence attributable to the Contractor 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 HGCL Indemnified Persons.
- b) The Contractor shall indemnify HGCL Indemnified Persons from all legal obligations in respect of professionals deployed by the Contractor. HGCL Indemnified Persons also stand absolved of any liability on account of death or injury sustained by the Contractor’s staff during the performance of their work and also for any damages or compensation due to any dispute between the Contractor and its staff.
- c) In addition to the aforesaid, the contractor shall fully indemnify, hold harmless and defend HGCL 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 contractor or by the Agents in performing the contractor'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 contractor 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 contractor 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 HGCL for the corresponding loss during the interim period on this account.

- d) The provisions of this Clause shall survive Termination.

The remedies provided under the Clause are not exclusive and shall not limit any rights or remedies that may otherwise be available to HGCL Indemnified Persons at law or in equity.

#### **7.17. TERMINATION**

- a) **ON EXPIRY OF THE CONTRACT:** Subject to the condition mentioned under the Bid, the Agreement shall be deemed to have been automatically terminated on the expiry of the Contract Period unless HGCL 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 Bid.
- c) **ON BREACH OF CONTRACT:** HGCL may terminate the Contract if the contractor causes a fundamental breach of the Contract. Fundamental breach of Contract includes, but shall not be limited to, the following:
- i. The contractor fails to carry out any obligation under the Contract.
  - ii. The contractor 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 contractor stops work and the stoppage has not been authorized by HGCL;
  - v. the contractor 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 contractor, in the judgment of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract.
- d)** If the contractor, sub-contracts any assignment under this Agreement without approval of HGCL.
- e)** Any other fundamental breaches as specified in the Bid.
- f)** Notwithstanding the above, HGCL 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), HGCL 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
  - iii. Project/assignment/work of HGCL for a period as determined by HGCL in its sole discretion.

#### **7.18. APPROPRIATION OF PERFORMANCE BANK GUARANTEE**

- a)** Upon failure of the contractor to commence the services, for any reason whatsoever, within the period set forth in this Contract or the extended period thereunder, HGCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to levy Damages as per relevant Clause hereinabove.
- b)** HGCL 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 HGCL 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 contractor 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 HGCL shall be entitled to terminate this Agreement in accordance with relevant clause hereof.

#### **7.19. MISCELLANEOUS**

- a)** Standard of Performance

The contractor 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 HGCL. The firm shall promptly replace any personnel deployed under this contract that HGCL considered unsatisfactory. The Contractor also needs to ensure that the System developed adheres the standards as specified under 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;
  - (a) 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;
  - (b) 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;
  - (c) 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 authorized 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 HGCL, any document submitted by the contractor 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. HGCL shall not be liable to the Contractor 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 HGCL, 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 2 (Two) years following the date of such Termination.

**h) Entire Agreement**

This Contract, the Bid 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 HGCL; 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 HGCL;

- ii. in the case of HGCL, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the [•] of HGCL with a copy delivered to the Authority Representative or such other person as HGCL 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 Contractor shall not sub-contract any assignment to a third party. The Contractor 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 HGCL's business or operations without prior written consent of HGCL.

**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 HGCL

By

Authorized Representative

Signature

Name

Address

For & behalf of  
(Contractor)

Witness

Signature

Name

Address

## **APPENDIX 2 – NON-DISCLOSURE AGREEMENT**

This Non-Disclosure Agreement dated the ..... day of ----, 2022 BETWEEN the “Grantor” AND the “Contractor”

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

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. Definitions
  - a. “Purpose” shall mean the Project Assets, assigned by the Contractor 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 Maintenance of TMS.
  - d. “Receiving Party” shall mean the party that has received the Confidential Information from the Originator Party for the Purpose of the Maintenance of TMS.

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;

a. 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

b. 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 Contractor and to authorize the Contractor 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 Contractor will not bar the Contractor 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 Contractor was privy to information which was not within the public domain. On its part the

Contractor shall ensure, confirm and warrant that neither the Contractor 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 Contractor on the ground that the Contractor was privy to confidential information and it has derived undue advantage , unless reasonable opportunity is given to the Contractor 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 Contractor 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 occurrence of such damages

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.

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.

The Originating Party and the Receiving Party agree that the obligations contained in this Agreement shall extend to the affiliated companies of the Contractor 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.

#### 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.

#### 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.

#### 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 Contractor

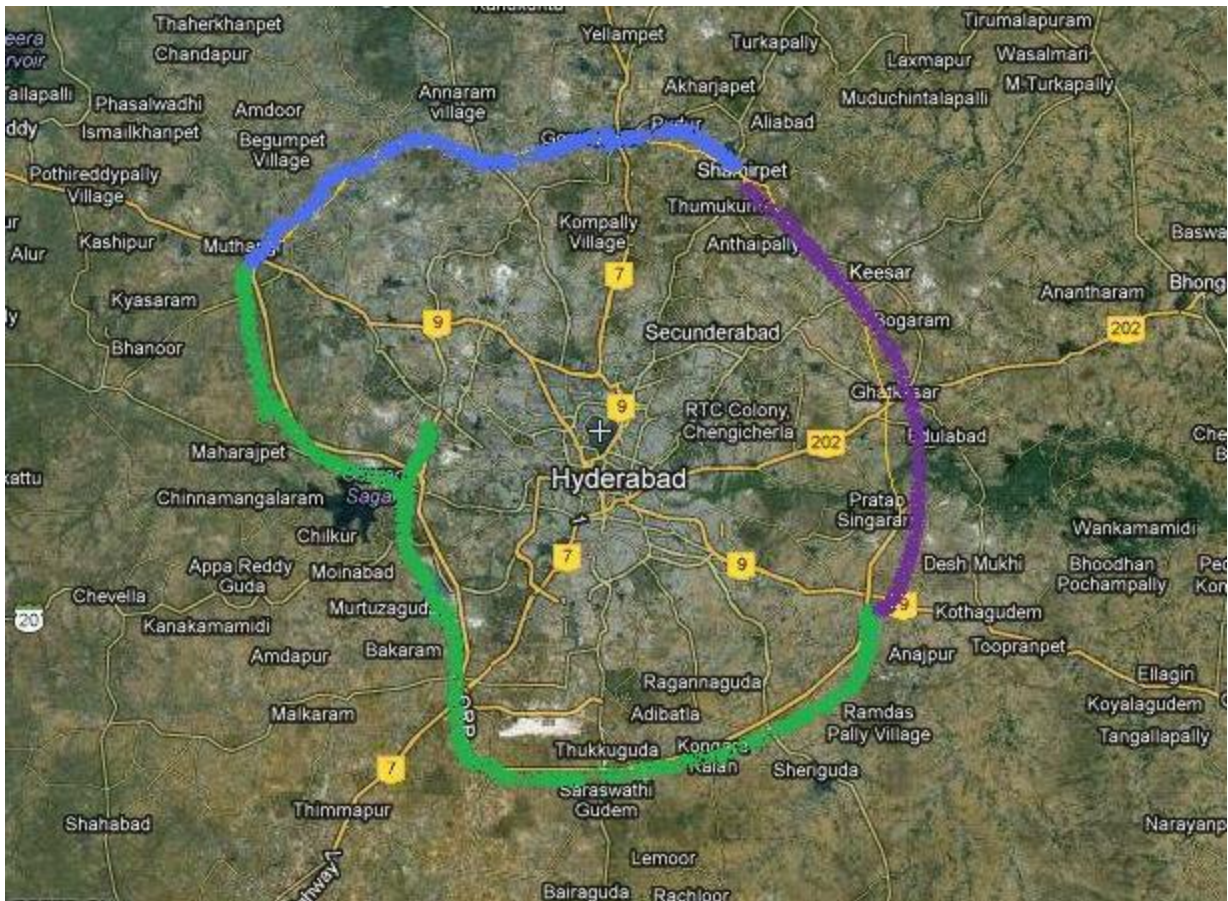
Name \_\_\_\_\_ Title \_\_\_\_ Signature \_\_\_\_\_

## PART – VII: SCOPE OF WORK

### FUNCTIONAL REQUIREMENT SPECIFICATIONS (FRS)

#### 8.1. Introduction

In this closed toll system, the toll plazas are structured at both entry and exit points of the ORR. According to this, each interchange has entry and exit lanes. Entry lanes are the lanes for taking entry on the ORR whereas Exit lanes are the lanes for taking exit from the ORR.



**Figure 1. Project Stretch**

- 1 The toll management system provided at the ORR is a closed system and the vehicle user is charged with a toll amount corresponding to distance travelled on the ORR.
- 2 Three type of toll collection methods are to be implemented:
  - a) Electronic Toll Collection (ETC)
  - b) Touch & Go (T&G)
  - c) Manual
- 3 A set of toll lane equipment are installed in the tollbooth, on the toll island or in its vicinity for toll collection operation. The operation of all lane equipment is monitored continuously by a plaza computer system which also compile, audit and prepare the statistical data for print out, for display in the plaza building control room or onward

transmission to the Traffic Control Center (TCC). A main Traffic Control Centre is at Nanakramguda and a sub Traffic Control Centre is at Ghatkesar interchange. Two traffic control centre systems are provided for backup purpose and they are identical in the system configuration.

- 4 Each toll plaza operates as an autonomous system with no data communication between plazas and between the plaza and Traffic Control Centre.
- 5 The toll management is divided into the following sub-systems:
  - a) Manual and T&G system
  - b) Hybrid ETC system
  - c) Data communication with plaza computer system
  - d) Plaza Computer System (PCS)
  - e) Traffic Control Centre (TCC) system
  - f) CCTV system
  - g) Power system

## **8.2. Background and Coverage**

This section captures the Deployed TMS (“System”) by HGCL across designated Toll Plazas.

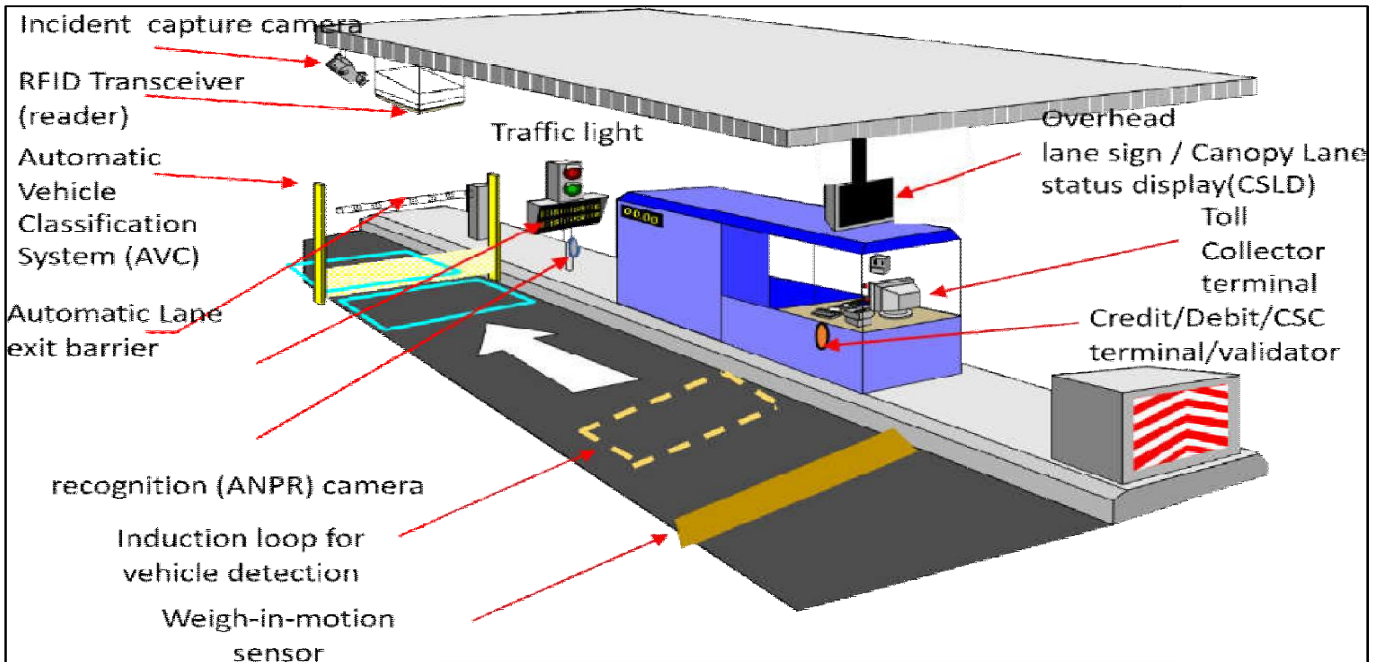
TMS is a software package for Toll collection and management which would serve as a backbone to integrate various technologies that exist currently.

The further sections capture the Deployed the System from the perspective of all stakeholders – Public, Financial Institutions, Operators, HGCL, and other Government Agencies. The section consists of following modules

- a) “General System Requirements”, captures general 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 Entering RFID Lanes without having RFID Tag, U - Turn, etc.
- c) “Integration Module”, provides details regarding integration with various internal and external systems.
- 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 with all lane level equipment as captured in the following diagram, and simultaneously generates and presents detailed and consolidated information on the Toll Management System performance including issues at the lane / plaza and national level.



**FIGURE 2: VARIOUS PLAZA EQUIPMENT**

**System Flow**

The System has 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 allows 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.

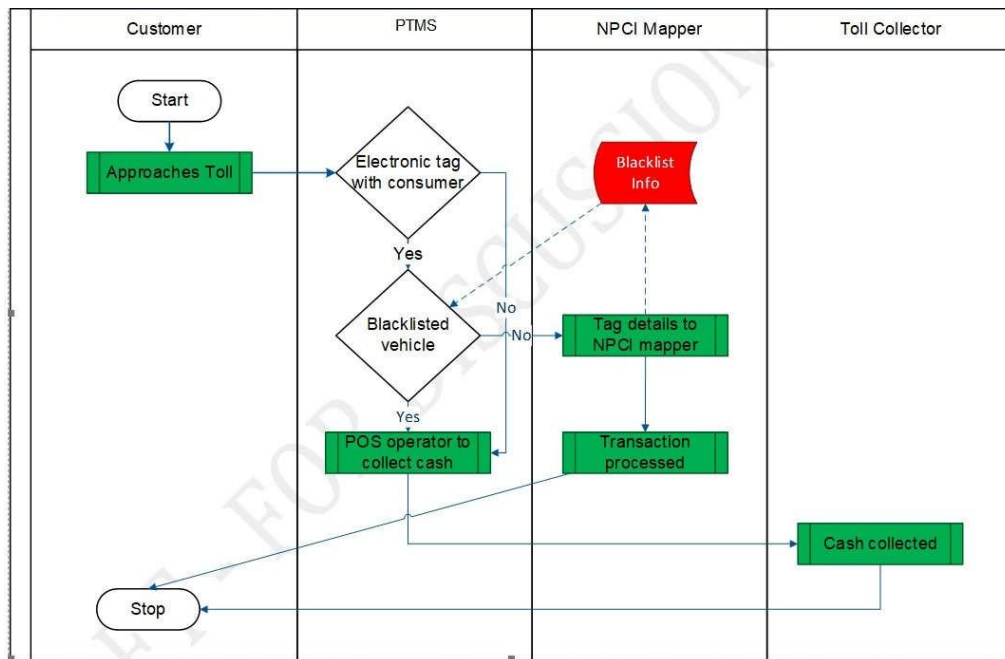


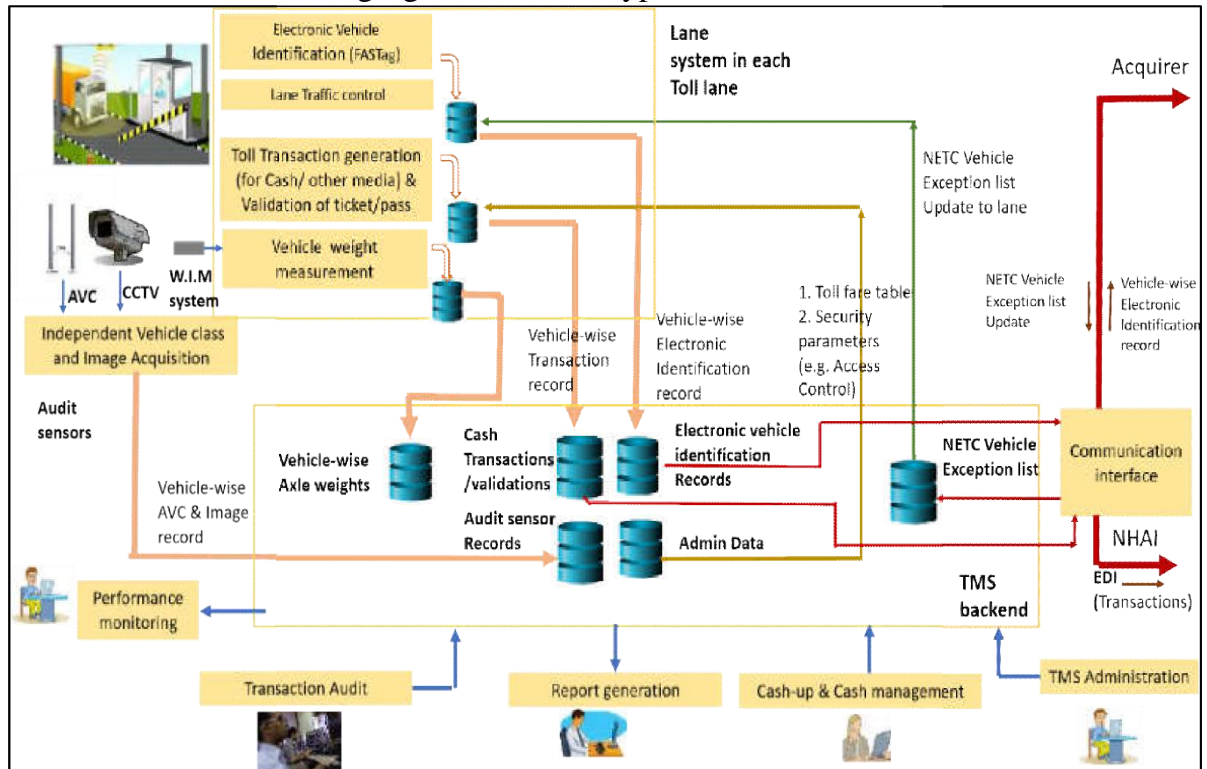
Figure 3: System Flow

### 8.3. Key Features

The key features of the TMS 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 automatically Calculate **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 for rapid toll payment

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



TMS – 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.

### 8.3. System Design

The System has the following key elements from a logical system design perspective.

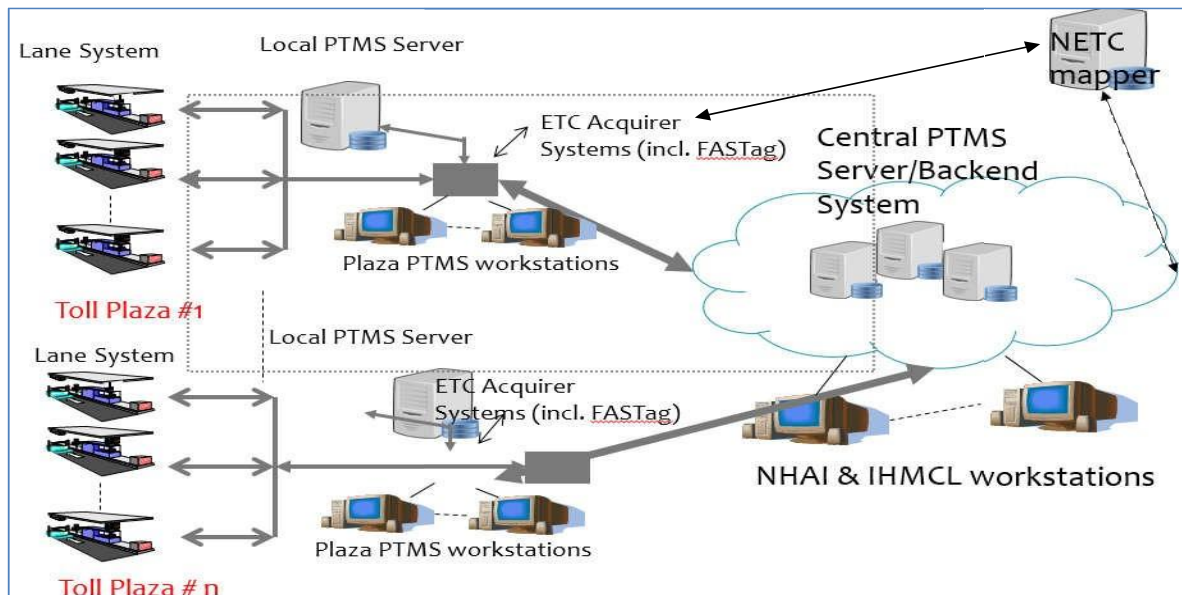
- Transaction Layer describes the various transactions of the System as presented to its end users.
  - Cash Transactions
  - ETC Transactions
  - Miscellaneous Transactions
- Integration layer refers to The System's interfaces with external third-party systems deployed at various toll plazas. The layer 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"> <li>•Cash Transactions</li> <li>•Electronic Transactions</li> <li>•Exempt Transactions</li> <li>•Miscellaneous Transactions</li> </ul>	<ul style="list-style-type: none"> <li>•Camera (Incident/ANPR)</li> <li>•Fare Display</li> <li>•Lane/Exit Barrier</li> <li>•Traffic Light</li> <li>•Automatic Vehicle Classifier (AVC)</li> <li>•Weigh In Motion (WIM)</li> <li>•NETC System</li> <li>•RFID Reader</li> <li>•Other Readers (NFCs, Cards, etc.)</li> <li>•Lane Exit Barrier</li> </ul>	<ul style="list-style-type: none"> <li>•NETC Transactions</li> <li>•Fare Calculations</li> <li>•Cash Transactions Processing</li> <li>•Violations Processing</li> <li>•Equipment Status</li> <li>•TLC Module</li> <li>•Finance Module</li> <li>•Accounting Module</li> <li>•Payment Reconciliation</li> </ul>	<ul style="list-style-type: none"> <li>•Plaza Status</li> <li>•Equipment Status</li> <li>•Cash Details</li> <li>•HGCL reports (Equipment status, SLA, uptime)</li> <li>•Variation in traffic(seasonal, monthly, growth)</li> </ul>

**Figure 5: SYSTEM DESIGN**



**FIGURE 6: SYSTEM DEPLOYMENT ARCHITECTURE**

### 8.4. General System Requirements

<b>A.</b>	General Requirements
1.	The information flow is designed to ensure that the system can operate with minimum

A.	General Requirements
	bandwidth (128 Kbps) for access and operation.
2.	The System 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"> <li>a. AVC interface</li> <li>b. WIM interface</li> <li>c. RFID transponder</li> <li>d. Acquirer systems related to various electronic transactions</li> <li>e. Payment gateway</li> <li>f. Smart cards</li> </ul>
4.	The System should have accuracy in the capture, processing, communication and reporting of Toll Transactions and associated information as per defined standards.
5.	The System 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.
6.	The System 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)
	The System is scalable to other electronic media - Use of other ETC media e.g. Contactless Smart card (e.g. NCMC)), QR based payment, etc. for rapid toll payment
7.	<p>Data should be retained with the following frequency, at a minimum:</p> <ul style="list-style-type: none"> <li>• TMS Lane Level :3 months</li> <li>• TMS backend Detailed Data: 12 months</li> </ul> <p>Summarized Data :24 months</p>
	The System has adequate backup and redundancy provisions. All transaction and incident data shall be retained, duplicated and stored within the various levels of the TMS such that should any level or component of that level suffer a partial or total failure, the data is not irretrievably lost to the system. In addition, it is possible to reconstruct and restore the data for the failed level from the stored data into its original format.
	The System has features that will enhance the toll collector's productivity while performing repeated transactions over the shift period. These shall include, at a minimum:



<b>A.</b>	<b>General Requirements</b>
	<ul style="list-style-type: none"> <li>• Minimum key presses to complete a cash transaction</li> <li>• Large on-screen text and graphics size</li> <li>• Optimum arrangement of keys on the TCT keyboard</li> </ul>

### 8.5. Vehicle Processing

<b>A.</b>	<b>Vehicle Processing and Plaza Operations</b>
1.	<p>The System perform the following operations, in the following sequence, for processing a vehicle at the Toll Plaza</p> <ol style="list-style-type: none"> <li>a. The Boom Barrier is closed</li> <li>b. The System check if the vehicle can be processed via electronic transactions. If the vehicle can be processed electronically, then</li> <li>c. <b>Electronic Tags processing</b> related rules are followed.</li> <li>d. For vehicle that do not have active electronic payment modes,</li> <li>e. <b>Fare Calculations and Cash Operations</b> related rules are followed.</li> <li>f. The Vehicle's fare is displayed to the Lane Operator and vehicle user</li> <li>g. Receipt is printed for cash operations. The receipts have a QR code that display following information upon input <ol style="list-style-type: none"> <li>i. Date and Time of operation</li> <li>ii. Plaza details</li> <li>iii. Vehicle details</li> <li>iv. Cash collected</li> <li>v. Lane number</li> <li>vi. Receipt number</li> </ol> </li> <li>h. The Boom Barrier is opened</li> <li>i. The loop sensors detect once the vehicle has passed, and close the boom barrier accordingly</li> <li>j. Steps listed above is not be executed for exempted vehicles. However, step is executed without fail.</li> </ol>

A.	Vehicle Processing and Plaza Operations
2.	<p>The System automatically capture the following minimum details associated with each transaction</p> <ol style="list-style-type: none"> <li>i. Date and time</li> <li>ii. Plaza and lane ID</li> <li>iii. A sequential number assigned based on the data above</li> <li>iv. Vehicle classification (by toll Collector or as read from the FASTag <b>and</b> that received from the AVC in both cases)</li> <li>v. Discrepancy in vehicle classification, if any</li> <li>vi. Vehicle number, if captured by ANPR or manual entry</li> <li>vii. Toll Collector ID in case of manual user fee collection</li> <li>viii. Toll amount collected</li> <li>ix. Fine/Penalty and another amount charged</li> <li>x. Method of Payment: FASTag/CASH/ETC-Card</li> <li>xi. Exceptional transaction (exemption, convoy and other cases) as per G.O Ms. No.365, Dt. 22.09.2012.</li> </ol>
3.	<p>The System automatically transmit the following details regarding the lane to a monitoring system at a Central location</p> <ol style="list-style-type: none"> <li>i. Lane Mode: Open/Closed/Maintenance</li> <li>ii. Status of following equipment: <ol style="list-style-type: none"> <li>a. Lane Controller</li> <li>b. Boom Barrier</li> <li>c. RFID transceiver</li> <li>d. Automatic Vehicle Classifiers (AVC)</li> <li>e. Internet connectivity (via lease line/dongle/etc.)</li> </ol> </li> <li>iii. Total collections via cash/electronic mode since last transmission/for the day</li> <li>iv. Number of vehicles processed since last transmission</li> </ol> <p>The System also has features to identify lanes that are not transmitting the above information as per frequency and issue alerts as per defined strategy.</p>

<b>A.</b>	<b>Vehicle Processing and Plaza Operations</b>																				
4.	<p>The system support following components/devices for the operations</p> <ul style="list-style-type: none"> <li>i. An Overhead Lane sign (OHLS) 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 OHLS), the lane mode.</li> <li>ii. An automatic Lane exit barrier (ALB) that allows the road user to leave the lane after toll payment.</li> <li>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.</li> </ul> <p>The system also have features for traffic control and guidance of toll paying vehicle through the toll lane</p>																				
5.	<p>The OHLS sign display the following details</p> <table border="1" data-bbox="331 927 1460 1187"> <thead> <tr> <th>S.No</th> <th>OHLS</th> <th>Automatic lane exit barrier</th> <th>Traffic Light</th> <th>Traffic control / guidance</th> </tr> </thead> <tbody> <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> </tbody> </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																	

### 8.6. Electronic Tags processing

<b>C.</b>	<b>Electronic Tag processing</b>
1.	<p>The System 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"> <li>- TID</li> <li>- EPC Code</li> <li>- User Code</li> </ul>
2.	<p>Systems deploy the following logic for handling the Exception List files.</p> <p>The TMS 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>

C.	<b>Electronic Tag processing</b>
3.	If the Tag's Id is found in the Exception list, the System 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 offers cash-based transaction for the user.
4.	The System should have the capability to automatically calculate the fare details based on the toll plaza and time of operation.
5.	System is able to calculate penalties if a non FASTag vehicle has entered the FASTag lane as per NHAI rules.
6.	<p>The System have feature to alert the customer, Issuer Banks, and NPCI in case of following potential frauds</p> <ul style="list-style-type: none"> <li>- The tag has been used across different toll plazas within 15-minute window</li> <li>- The tag is used across toll plazas that are not frequently used by the customer</li> <li>- The tag has been used after a considerable period of non-usage</li> </ul>
7.	The System 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.

### 8.7. Fare Calculations and Cash Operations

D.	<b>Fare Calculations and Toll Operations</b>
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 also capture the videos/images of such vehicles and tag them with transaction time.
2.	<p>The system have the facility to automatically calculate the fare based on the following details</p> <ul style="list-style-type: none"> <li>- Toll plaza</li> <li>- Class of vehicle</li> <li>- Time of operation</li> <li>- Return journey</li> <li>- Cash vehicle entering the ETC Lane (double the Toll amount)</li> </ul> <p>It is possible that all the above parameters or a subset among them may be used for fare calculation. It is possible to configure the system accordingly during system Operations.</p>
3.	System is 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

<b>D.</b>	<b>Fare Calculations and Toll Operations</b>
	automatically push the same to individual Toll Plazas from a central system.
4.	<p>The system have features to perform the following activities upon receipt of cash by the operator</p> <ul style="list-style-type: none"> <li>- Enter the cash received</li> <li>- Print the Toll receipt</li> <li>- Open the Boom Barrier</li> </ul>
5.	<p>The System have features to handle Convoy vehicles via the following approach</p> <ul style="list-style-type: none"> <li>- Lane Operator is required to press the Convoy button to start the transactions</li> <li>- The display boards display fare as Zero</li> <li>- There will be no receipts for these vehicles</li> <li>- Alert the supervisor regarding Convoy operations</li> <li>- Capture images and mark them accordingly</li> </ul> <p>Continue the operations until the Toll Operator presses Convoy key followed by the 'accept' key, post which the system resume normal operations</p>
6.	<p>The System have features to capture details of “run-through vehicles” that pass the Toll Plaza without paying toll. The System automatically capture images of such vehicles and send to HGCL at the end of day. The above features is also available for vehicles that have been classified inaccurately.</p>
7.	<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"> <li>- The Toll Collector Presses Towed Vehicle key</li> <li>- The Toll Collector enters number of vehicles being towed and their class</li> <li>- The System displays the total amount payable</li> <li>- Toll Collector confirms receipt of due amount</li> <li>- Boom barrier is opened</li> </ul> <p>The loop sensors allow Boom Barrier to be opened till the entered number of vehicles have passed</p>

**8.8. Plaza/Lane Management Module**

<b>E.</b>	<b>Plaza/Lane Management Module</b>
1.	The Lane management module have the following features

E.	Plaza/Lane Management Module
	<ul style="list-style-type: none"> <li>• Login/Logout                             <ul style="list-style-type: none"> <li>○ Toll Collector/Fee Collector</li> <li>○ Supervisor</li> <li>○ Maintenance</li> </ul> </li> <li>• Lane Mode /Configuration                             <ul style="list-style-type: none"> <li>○ Hybrid Lane (supporting Cash, and ETC)</li> <li>○ ETC Lane (Dedicated)</li> <li>○ Cash (Semi-Automatic)</li> </ul> </li> <li>• Mode of Payment                             <ul style="list-style-type: none"> <li>○ Cash</li> <li>○ Smart card</li> <li>○ QR code - Return journeys</li> <li>○ FASTag / Electronic mode/Other electronic mode</li> <li>○ Exempt</li> </ul> </li> <li>• Journey Type                             <ul style="list-style-type: none"> <li>○ Single</li> <li>○ Return</li> <li>○ Exempt</li> </ul> </li> <li>• Emergency/Authorized Exemption</li> <li>• Non- Emergency/Local Exemption                             <ul style="list-style-type: none"> <li>○ Violation</li> </ul> </li> </ul>
2.	<p>The following steps performed to complete the login of the Toll Collector</p> <ul style="list-style-type: none"> <li>- The Toll Collector enters details of the cash-in-hand before starting operations</li> <li>- The supervisor verifies the above details</li> <li>- System maintains a log of above events and their respective time</li> </ul> <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 mode changes from “Under Maintenance” to “Operations”</p>

<b>E.</b>	<b>Plaza/Lane Management Module</b>
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"> <li>- Toll Collector selects the “Log Off”</li> <li>- System puts the lane under “Maintenance Mode” and no operations are allowed</li> <li>- A report is generated of the total cash collected. The report also displays the total cash expected from the Toll Collector</li> <li>- The supervisor accepts the log off activity</li> <li>- The lane remains in “Maintenance Mode” till a new login is performed on the same</li> </ul> <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>

### 8.9.Plaza Activity Module

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

### 8.10. Integration Module

#### Financial Partners

<b>J.</b>	<b>Financial Partners</b>
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<b>J.</b>	<b>Financial Partners</b>
1.	The System have features to calculate the following details for any Lane/Plaza at any point in time <ul style="list-style-type: none"> <li>- Cash issued to the Lane Operator</li> <li>- Cash expected from the Lane Operator (basis vehicles passing through the plaza)</li> </ul>
2.	The System 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.

### 8.11. Employee Module

#### 8.1.1. System Configuration

<b>M.</b>	<b>Configuration Dashboard</b>
1.	The System support Role-based access for administrators and users.
2.	The System 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 be accessible only to a selected group of users across each department and office
4.	Every update in the System configuration require approvals from a user at least one level above the updating user. All the changes also be available for audit purposes.
5.	The System have facility for creating/editing/deleting fee rates for various services rendered by HGCL
6.	The System keep history of year wise fee rate and facilitate automatic calculation of fee for a given year for a given service
6.	The System have facility for creating/editing/deleting various rate of penalties or interests relating to specific service, time period etc.
8.	The System have facility for creating/editing/deleting various roles, users etc. for System use
9.	The System have facility for creating/editing/deleting linkages between roles, users, workflow etc.
10.	Facility is there for assigning, reassigning, activating, deactivating etc. for various task, users and roles.

#### 8.11.2. System Dashboard

<b>P.</b>	<b>System Dashboard</b>
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<b>P.</b>	<b>System Dashboard</b>
1.	The System has System Dashboard for defined class of HGCL users. The System Dashboard should allow users to change the system configuration as per requirements.
2.	The entry to the dashboard is via employee id and password.
3.	<p>The system dashboard should allow for editing of following Toll plaza details –</p> <ul style="list-style-type: none"> <li>- Add a new toll plaza</li> <li>- Change the number of lanes</li> <li>- Change the ETC lanes</li> <li>- Change the Toll Operator</li> <li>- Delete the toll plaza</li> </ul> <p>Edit the mapping between plaza and rates</p>
4.	<p>The system dashboard allow for editing of following Vehicle Class details</p> <ul style="list-style-type: none"> <li>- Add a new Vehicle Class</li> <li>- Drop a vehicle class</li> </ul> <p>Change the rates associated with the vehicle class</p>
5.	<p>The system dashboard allow for editing of following Toll Operator details – Add a new Toll Operator</p> <ul style="list-style-type: none"> <li>- Assign a Plaza to Operator</li> <li>- Drop the Plaza from Operator</li> </ul>
6.	<p>The system dashboard allow for editing of following Employee details –</p> <ul style="list-style-type: none"> <li>- Add a new Employee</li> <li>- Assign a Plaza to Employee</li> <li>- Drop the Plaza from Operator</li> </ul>

## 8.12. Reporting Module

### 8.12.1. Revenue Reports

<b>Q.</b>	<b>Revenue Dashboard</b>
1.	<p>The System have module to generate the following reports, but not limited to: -</p> <ul style="list-style-type: none"> <li>• Shift Collection Report</li> <li>• Manual/Cancel Report</li> <li>• Till Time Collection report</li> <li>• Periodic system collection Report</li> <li>• Transaction Report</li> <li>• Periodic Transaction Report</li> </ul>

	<ul style="list-style-type: none"> <li>• Day Collection Report</li> <li>• Discrepancy Transaction Report</li> <li>• ETC Collection</li> </ul>
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## Other Reports

<b>R.</b>	<b>Other Dashboard</b>
1.	<p>The System have module to generate the AVC reports</p> <ul style="list-style-type: none"> <li>• AVC Accuracy Report</li> <li>• AVC Traffic count Report</li> </ul>
2.	<p>There is features to generate the following Traffic reports</p> <ul style="list-style-type: none"> <li>• Lane Wise Report</li> <li>• Class Wise Report</li> <li>• Traffic Count Report</li> <li>• Traffic count summary Report</li> <li>• Monthly Traffic Report</li> </ul>
3.	<p>There is features for following Event reports</p> <ul style="list-style-type: none"> <li>• Day Violation Report</li> <li>• User Activity Report</li> <li>• Exempt Vehicle Report</li> <li>• Cash collection in FASTag exclusive lanes</li> <li>• Total ETC Collection</li> <li>• Total Cash Collection</li> <li>• Exemption Report</li> </ul>
4.	<p>There is features for following Audit Reports</p> <ul style="list-style-type: none"> <li>• Audit Transaction Report</li> <li>• Post Audit Collection Report</li> </ul>
5.	<p>The system have features to automatically track the status of various equipment at the plazas/lanes on an hourly basis</p>

**PART – IX: MINIMUM PERFORMANCE SPECIFICATIONS AND STANDARDS  
(MPSS)/MAINTENANCE SPECIFICATIONS**

## **1. General**

### **1.1 Definitions**

The terms used in these Maintenance Specifications shall have the meaning described hereunder.

- 1) Clean: Removal of dirt, insects, foreign matters, stains, and touching up of metal surface necessary to prevent rust or corrosion.
- 2) Check: Checking the equipment operation and physical condition and make adjustments or minor repair, clean and oil moving mechanism, secure mounting, and restore water or fuel levels as necessary.
- 3) Inspect: The term "inspect" shall have the same meaning as "check"
- 4) Resolution time: Elapsed time from receiving notification of failure to completing the permanent or temporary remedial measure.
- 5) Response time: Elapsed time from receiving notification of failure to arriving at the job site.
- 6) Foreign spare parts: Spare parts which are manufactured in foreign countries and are not regularly available in India.

### **1.2 General Requirements**

The purpose of the maintenance work is to keep the Toll Management System and related facilities in operation in the manner originally intended, that is to efficiently collect the correct toll from the vehicles, prevent any fraudulent activity by user and staff, reconcile toll collection, management toll collector's tour of duty and to prolong the useful life of the equipment. Therefore, time is of essence. Repair must be done in a timely manner.

The specifications described herein shall be considered the minimum standards to be followed for the maintenance and repair of all equipment and software covered under this contract. Unless otherwise specified, the standards for equipment and equipment performance shall be in accordance with the Technical Specifications.

The Contractor shall undertake the works that are not specifically mentioned in these Specifications and on the Drawings but essential for the efficient operation of the Toll Management System. The requirements stated herein shall be construed as minimum requirement and meeting the respective requirements shall not relieve the Contractor from the responsibility of supply/maintain the Toll Management System that functions efficiently as a system.

### **1.3 Scope of Work**

The Toll Management System be implemented along the ORR shall be a closed system and drivers will be charged with a toll corresponding with the distance travel. Tolls shall be collected from all motorized vehicles using the ORR with the exception of VIP car movement, emergency services, high personages and military convoys and other exemptions.

Three type of toll collection method shall be adopted; Electronic Toll Collection (ETC), Touch & Go (T&G), and manual. All the lanes equipped with both manual and touch & go facilities including ETC. ETC use prepaid payment system for ETC and Touch & Go. No post paid payment system introduced to the toll management system under the Contract.

A set of toll lane equipment installed in the tollbooth, on the toll island or its vicinity for toll collection operation. The operation of all lane equipment are to be monitored continuously by a plaza computer system that also compile; audit and prepare the statistical data for print out, for display in the Plaza building control room or onward transmission to Traffic Control Center (TCC). A Main Traffic Control Centre will be constructed at Nanakramguda and a Sub Traffic Control Centre will be constructed at Ghatkesar interchange. Two traffic control centre systems will be constructed for backup purpose and they will be identical in the system configuration.

The Plaza Computer System (PCS) also provide management facilities such as attendance recording, reconciliation between declared and expected toll collection and control of cash transferred from the plaza to the bank.

Each plaza operate as an autonomous system with no data communication between plazas and between plaza and Traffic Control Centre being necessary. A data communication network via fibre optical cable provided under a separate contract and not be included as part of the scope of works for current contract. However, a complete data communication link from the Toll Lane Controller to the PCS, and between PCS and TCC system and all the necessary interfaces to this data communication network provided under this Contract.

The Contractor shall provide maintenance personnel, maintenance equipment and tools, transportation and other facilities necessary for effectively carry out the maintenance work. All the cost that the Contractor will incur in connection with the maintenance shall be considered as included in the Maintenance of the Pricing Documents.

#### **Vehicle Classification and Toll Fare:**

The Toll Management System to be provided under this Contract shall accommodate six vehicle classifications. All software, display formats and print-outs shall be designed to cater for these Six classifications.

<b>Class</b>	<b>Type</b>
1	Cars / Jeep / Van / LMV/SUV/MPV
2	LCV / Mini Bus
3	Bus / 2-axle Truck
4	3-axle commercial vehicles
5	Heavy Construction Machinery / Earth Moving Equipment / 4/5/6 axle trucks
6	Oversized vehicles (7 or more axles)

Vehicle classifications made based on the number of axles, height of vehicle at first axel and the distance between the first and second axels. Toll Management System installed by TMS contractor is a state-of-the-art technology to collect the toll on the roads/ expressways. The system utilizes the sensors, electronics devices, computers and software to absolute the process of tolling seamlessly. The user friendly software modules and required hardware enable to mmaximize the system efficiency.

Toll System performs the following operations and functions:

- (a) Monitoring of all lane operations continuously
- (b) Processing of all data and information related to the toll collection system efficiently
- (c) Storing and transferring of data to plaza computer system in real time
- (d) Data processing and validation via visual display units, printer terminals, portable memory modules and data/ parameter transfer facilities
- (e) Communicate data (viz. transaction status, toll information etc.) continuously to the PCS and downloading operational parameters for the same
- (f) Interfacing with Main TCC and Sub TCC system for backup and standby operations
- (g) Data acquisition from PCS
- (h) T&G card and tag encoding and decoding operations
- (i) Compiling statistical data and monitoring of lane operation
- (j) Serving as an alarm monitoring and acknowledgement system
- (k) Providing traffic data to the PCS and TCC systems

- (l) Correlating data from PCS and bank-in into summary and statistical reports and files
- (m) Maintaining operational parameters at TCC system and subsequent downloading to PCS
- (n) Electronic processing of the toll transactions through ETC and Manual and T&G lanes
- (o) Publishing transaction information via visual display units
- (p) Automatic vehicle classification
- (q) Database management for data analytics
- (r) Monitoring of lanes, booths and plaza building through best quality cameras
- (s) Publishing of MIS reports and generating traffic statistics

Except otherwise specified in these Maintenance Specifications, the Contractor shall furnish all labor, tools, shop facilities, equipment, transportation and materials and perform all works necessary to maintain in good working manner all toll management system and associated equipment.

Maintenance services are required to cover manual and T&G lane equipment, ETC lane equipment (201 lanes +17 temporary lanes), Plaza Computer System (PCS), Traffic Control Center system (TCC), CCTV system, network equipment, power conditioning equipment and various cables provided under the Contract and installed at toll lane, toll plaza building, Traffic Control Centre and their vicinity. The list of equipment installed is provided in Attachment-1 and spares available in the Attachment -2 for which the Contractor shall provide maintenance service during the contract period. However, the maintenance requires is not limited to the available equipment and the services has to be provided in respect of any additional equipment being deployed in project for its future requirement (other than increase in number of lanes).

#### **1.4 Type of maintenance work (Attachment-2)**

The various classifications of maintenance and repair work and related services to be performed by the Contractor shall include the following:

- (a) Preventive maintenance

The work to be done consists of monthly inspection/cleaning and quarterly or bi-annual checking, cleaning, and servicing of various system components and related equipment.

Minor deficiencies uncovered during the performance of preventive maintenance shall be corrected immediately. Any problems which require further attention or use of spare part(s) shall be recorded on the Fault Report Form.

(b) Corrective maintenance

The work to be done consists of correcting malfunctions resulting from any cause including but not limited to defective design, defective manufacturing process, equipment deterioration and failure under normal operating conditions, improper handling and inadequate operation by the Employer's staff, the Contractor's staff, or third party.

(c) Accident repair and rehabilitation

The work to be done consists of repairing damages to the equipment due to accidents, vandalism, act of God, and pavement failures and includes clean up of debris, erecting necessary warning and safety devices, and hook-up of temporary equipment if required to insure the safety of the public.

(d) System modification

The work to be done consists of modifying the system, system parameter and other operating conditions and to improve the operation or to conform to new operational requirements. The work shall be done as directed by the Employer's Representative.

(e) Consultation

The Contractor shall designate a representative in his organization whom shall be available to the Employer staff for consultation at no added expenses to the Employer. The scope of consultation shall include preparation of repair work plan, cost estimates and explanation of functional and operational characteristics of equipment.

(f) Maintenance and repair records

The Contractor shall maintain a comprehensive record of all maintenance and repair activities and spare parts consumptions. The records shall include as a minimum maintenance check lists, fault reports, spare parts receiving and consumption records, and work orders.

(g) Reporting

The Contractor shall prepare and submit a monthly report in the form and contents as specified herein and as agreed with the Employer's Representative Hard Copies and Soft



copy to be Mailed as instructed by employer as minimum the following reports:

- (a) Daily attendance record with in time and Out Time for all the staff working on the plazas.
- (b) Cumulative duties for all the staff as per the designation of the staff for each plaza.
- (c) Equipment failure and repairs report for each plaza for each month with the time and date, nature of failure, cause of failure, remedial action taken and the recovery time and date.
- (d) Daily AVC accuracy report as generated by the system.
- (e) The reports mentioned above are a minimum requirement. The Client reserves the right to reasonably demand more reports other than those listed above after the commencement of Services by the Agency.
- (f) The format of the reports shall be as per the Client's approval.
- (g) The Contractor also agrees to unconditionally abide by such other direction of the HGCL issued by the authorized representative on all matters under the provisions of this contract.
- (h) Traffic Volume and Traffic Revenue report in the form of Origin and Destination (O-D) for Manual, ETC etc.,
- (i) Any other Reports Generated in the TMS System
- (j) Required Reports to be sent through Mail whenever instructed by Employer

## **1.5 Project Meeting**

The Contractor shall be available for project meetings which will be called for by the Employer/Employer's Representative. The notice of such meetings shall be given by the Employer's Representative in writing or email, or any other communication and delivered to the Contractor's field office in Hyderabad at least seven (3) days in advance of the planned meeting date. However contractor shall also should be available for all regular meetings conducted any time by Employer/Employer's Representative with short notice.

## **1.6 TRAINING**

Training to be conducted as follows:

- Management & Operations training: This Training to be conducted in classroom

and on job with at least 20 person per batch. Lane level and plaza level user training will be conducted. This user training is to enable operators at all level to use the system efficiently and effectively. For conducting training contractor has to arrange all required material, arrangements such as chairs, hospitality, etc.,

- The training should be conducted when new agency appointed for user fee collection on ORR
- The training should be provided when new technology introduced
- If required training to be conducted in classroom and on job with at least 20 person per batch.
- Training should be conducted quarterly to the Toll Collection Agency.
- Additional training to be provided when ever instructed by Employer under this contract.

## **2. Maintenance Personnel**

The Contractor shall engage all personnel necessary for the execution of the maintenance, such as Chief Maintenance Engineer, Electrical Engineer, necessary number of maintenance teams comprising of Engineers and Technicians to undertake the maintenance work as per requirement to fulfil the Contractor's obligations under the Contract. During the maintenance period these engineers shall be involved in the maintenance of Equipment, installation, adjustment, test on completion, etc., and training of the Employer's staff of the Toll Management System available under the Contract. These personnel shall be able to read, write and converse in English and all the correspondence shall be carried in English language only..

The Contractor shall submit the list of all maintenance staff with name and ID together with copy of ID details every month to the Employer's Representative.

- (a) In all circumstances it is clearly understood by the parties that the personnel deployed by the Contractor shall have no connection whatsoever with the HGCL and the relationship of master and servant or employer and employee shall be only between the Contractor and the personnel deployed by it.
- (b) However, if considered necessary, the HGCL shall have every right to enquire and seek documentary evidence from the Contractor, whether all the statutory dues like ESI, EPF, and Professional tax. Goods and Service Tax, Labor Cess Minimum Wages,

Weekly offs, Bonus, Medical Leave, Workmen Compensation and any other entitlements for which the Contractor is liable to provide, are being paid or not or have been paid or not for a particular period.

(c) In case of any breach by the Contractor in the payment of such statutory dues not necessarily pertaining to its personnel/employees, the HGCL shall be entitled to adjust the same from the Performance Security and pay such statutory dues to the authorities. The Contractor shall replenish the Performance Security within 7 (seven) days of the notice by the HGCL. The decision of the HGCL in this regard shall be final and binding on the Contractor.

- Comply with all the provisions of the Employees Provident Fund and Miscellaneous Provisions Act, 1952;
- Pay to all its personnel deployed as per the Minimum Wages Act, 1948; and
- If there is any change in the composition of the maintenance staff, it shall be reported immediately to the Employer. The contractor shall issue an ID to each staff member. The Contractor shall be responsible for the proper use of the ID to gain the access to the system facilities, and return it immediately if a staff member no longer works for the maintenance.

If the Contractor wishes to propose alternative persons to these positions, he or she shall have equivalent or better qualifications than those originally nominated. The Contractor shall submit curriculum vitae of the candidate person who is proposed to replace those persons proposed during the bid submission for the Employer's Representative's approval.

## **2.1 Chief Maintenance Engineer**

The Chief Maintenance Engineer shall be responsible for supervising and managing all maintenance activities and maintenance team in such a way that the Toll Management System will operate efficiently all the time and all the maintenance works are carried out expeditiously. He shall be bestowed with authority to receive and carry out the directions and instructions from the Employer's Representative with regard to the maintenance work including all hardware, software, installation, testing and operation. The chief Maintenance Engineers shall be responsible for the technical aspect of the toll management system and involved in technical discussions with the Employer and his

representative. He shall be also responsible for conducting the training and all testing procedures. He shall be committed to the Contract on a full-time basis.

The Chief Maintenance Engineer must be a Graduate in Electronics/ Information Technology/Systems Engineering/Computer. He shall be well versed in managing the computer system and network such as toll collection system, traffic management system or other ITS projects of the size and nature comparable to the system to be constructed. He shall have a minimum 15 years of professional experience of projects and minimum five (5) years of experience in the maintenance of such system as team leader/project manager/equivalent position.

The Chief Maintenance Engineer should coordinate with System Integrator for any for Software and Network for smooth function of TMS system to meet the SLA.

## **2.2 Electrical Engineer**

The Electrical Engineer shall be responsible for the maintenance of all equipment comprising the system under the Contract. He shall be responsible for developing and implementing the preventive work plan of the equipment. He shall also be responsible for preparing and implementing the remedial plan for malfunction and damages to the equipment and cables.

The Electrical Engineer must be a Graduate in Electronics, Electrical Engineering, or IT/Systems Engineering. He shall be well versed in the electronic and electrical devices such as those used in the Toll Collection System, Traffic Management System, factory automation and other industrial systems. He shall have a minimum 10 years of professional experience and minimum five (5) years of experience in the maintenance of electronic and electrical devices.

## **2.3 Maintenance Organization**

The Contractor shall establish an efficient maintenance organization consisting of competent personnel. One of the members and a substitute shall be nominated as contact person who is responsible for receiving all calls. During the off duty time of the contact person, substitute shall be responsible for receiving the call. Thus contact person shall be available in shift on a 24-hour a day and 7-day a week basis. The Contractor shall specify a contact number that shall be used to contact the person so nominated. The contact person and contact number shall be informed to the Employer

and other agencies who are involved in the operation of the ORR.

All maintenance service calls received by the Contractor shall be properly logged in the form approved by the Employer's Representative with the date, time, name of person received and contents of the call.

The Contractor shall set up the necessary number of maintenance teams to undertake the maintenance work at all the toll plazas in shift on a 24-hour a day and 7-day a week basis. The team shall consist of the number of persons of suitable expertise. Under normal condition, they will engage in the preventive maintenance work. In the event of malfunction or damage to the equipment or operational problem of server system and network, the team shall be dispatched to the site immediately to attend to the incident. If necessary additional personnel to be deployed at major plazas at his own cost to maintain Service level.

The manpower proposed is to be deployed at the project all times to maintain service levels. The agency is at liberty to increase the manpower if required to maintain service level for which no extra payment will be allowed.

### **3. Maintenance Facilities**

#### **3.1 Maintenance Equipment and Tools**

The Contractor shall prepare a set of maintenance equipment and tool normally required for the maintenance of the electrical and computer system. They shall be maintained in good condition so that they shall be available all the time. If calibration is required, it shall be calibrated at the regular interval as specified by the supplier of the maintenance equipment. The maintenance staff shall be trained as to use of the maintenance equipment and tools. The purchase or depreciation cost of the maintenance equipment and tools shall be deemed to be included in the appropriate cost item in the Tender and no separate payment shall be made.

#### **3.2 Equipment owned by the Employer**

The Contractor will be allowed to use the equipment owned by the Employer as listed in the Attachment 5 of these Maintenance Specifications free of charge, if it is available. The Contractor shall pay utmost care in handling the equipment and only the qualified personnel shall be allowed to operate the equipment. If the equipment is damaged during the custody of the Contractor, he shall immediately inform the Employer of the

incident. The Contractor shall either repair or replace it at his own cost after obtaining the approval as to the remedial measures to be taken from the Employer's Representative. All consumables (Excluding ALB Boom arms, printers rolls, Printer Cartridges for Toll Plazas) necessary for the operation of the maintenance equipment shall be supplied by the Contractor at his cost.

The Employer will not ensure the availability of the equipment all the time. In the event of unavailability of such equipment, the Contractor shall make available his own maintenance equipment. The cost to arrange such maintenance equipment shall be borne by the Contractor. The unavailability of the maintenance equipment owned by the Employer shall not relieve the Contractor from the obligation to perform the corrective maintenance and accident repair within the time specified in sub-section 5.1 Response Time and Resolution Time.

### **Warning Signs**

If required all work area warning signs shall conform to the requirements in the relevant regulations in Hyderabad.

If required A "LANE CLOSED AHEAD" and a "LANE CLOSED" sign shall be placed upstream of the lane closure site at a distance of approximately 100 meters and 50 meters respectively when one lane of the roadway is closed. These signs shall be placed further upstream of the work area if more than one lane of the roadway is closed. All work area warning signs shall be made of reflective sheet or material if the signs are to remain in place during hours of darkness.

### **Temporary Warning Flashers**

If required Temporary warning flashers shall be used throughout a day if traffic cones, barricades or other barriers are to remain in position day and night. Lamps shall be kept alight at all times. The flashers shall clearly mark the site of obstructions and delineate the transition zone.

### **Traffic Cones**

If required Traffic cones shall be placed on the roadway in advance of the work site to form a transition taper. The length of the transition taper shall be at least 50 meters so as to guide traffic smoothly from the full width section to the narrowed down section. Spacing between the cones shall be no more than 10 meters.

### **3.3 Maintenance Office**

The Contractor will be allowed to occupy and use the maintenance room in the toll plaza building for maintenance purpose. The Contractor shall observe the regulations regarding use of the maintenance office. Only persons authorized by the Employer's Representative shall be allowed to use the office. Contractor shall engage his own furniture for maintenance purpose including fans/coolers, etc.,

### **3.4 Maintenance Vehicle**

The Contractor shall provide the suitable number of vehicles for their maintenance use. The vehicles shall be of the type suitable for maintenance work in terms of the number of passengers and equipment load carrying capacity. The vehicle shall meet the relevant regulations and shall be maintained in good condition. The vehicle shall clearly indicate as maintenance vehicle on the side of the vehicle.

Cranes or any other vehicle to suit for maintenance work that are used to carry out operations on the roadway and that are required to travel slowly or to stop frequently shall be made as conspicuous as possible. This shall be achieved by painting them in a distinctive colour or painting the rear portion with diagonal stripes of a contrasting colour or providing flashing lights on the top of the vehicle. They shall also have a plate on the rear side with the words "Slow Moving". The cost of obtaining, operating and maintaining of the vehicle shall be included and no separate payment shall be made for the maintenance cost.

## **4. Preventive Maintenance**

The Contractor shall perform the preventive maintenance of all equipment and software supplied under the Project in accordance with the preventive maintenance schedule to be developed by the Contractor and approved by the Employer's Representative.

The Contractor shall prepare monthly progress report and submit One (1) printed copy and a soft copy to the HGCL. However, additional Hard copies whenever required should be submitted.

### **4.1 Inspection Item for Preventive Maintenance**

The Contractor shall prepare and submit to the Employer a list of inspection items for all preventive maintenance work under the Contract two months before the expected

date of the first taking-over of the portion of the works. The inspection item list shall indicate the type of inspection to be performed monthly, bi-annually and annually. The inspection item shall cover all the equipment to be supplied under the Contract.

The list of inspection items are presented in Annex to these Maintenance Specifications. They shall be construed as reference and the Contractor shall develop his own inspection item list based on the requirement of the equipment supplied under the Contract.

#### **4.2 Schedule for Preventive Maintenance**

The Contractor shall prepare and submit to the Employer a schedule for all preventive maintenance work under the Contract two months before the expected date of the taking over of the works.

The schedule shall be in sufficient detail to indicate which part of the monthly inspections is to be performed in each week and which part of the quarterly and bi-annual inspections is to be performed in each month and the number of maintenance engineers and technicians to be assigned to the work.

The Contractor will be required to revise the schedule if the work load and the manpower assignment are unbalanced or unrealistic. Failure to submit an acceptable schedule within the specified time shall be sufficient cause for suspension of the Contract and / or withholding of payments due to the Contractor.

#### **4.3 Check List**

The Contractor shall develop and prepare check lists to be used for preventive maintenance for each type of equipment and software, and submit them for the Employer's Representative for his approval. The checklists shall include the type of equipment, equipment ID, location, date of inspection, name of inspector, check item, and remarks.

The check list shall be used every time a periodical inspection of the equipment is made and results of the inspection shall be recorded together with other details.

The Contractor is required to submit a copy of all recorded check lists every three months and as requested by the Employer at any time. Failure to maintain or submit the check payments due the Contractor.

#### **4.4 Software Preventive Maintenance**

The Contractor lists shall be sufficient cause for suspension of the Contract and / or



withholding of

shall perform preventive maintenance of the software to be provided under the Contract as part of the maintenance work. The Contractor shall exert the utmost care not to inadvertently damage the software and database, and cause erroneous or abnormal operation of the toll management system.

The items for software maintenance shall include but not be limited to the following:

- 1) Monitoring of CPU, Memory and disk space utilization
- 2) Monitoring of system availability over TCP/IP
- 3) Monitoring of anti-virus and system security software operation
- 4) Backup of the system and restoration of the system when necessary.
- 5) Monitoring and review of system and event logs.
- 6) Applying upgrade and patch of the software provided by the third party including operating system and database management system.

#### **5. Corrective Maintenance and Accident Repair:**

The Contractor shall provide corrective maintenance and accident repair on a 24-hour a day, 7-day a week basis. Upon reception of a failure notice by the contact person, the Contractor shall log the notice and determine the nature and severity of the failure, prepare the repair plan including retrieval of spare parts that would be necessary for the work from the spare parts inventory and dispatch the maintenance crew to the site. Immediate action shall be taken to safeguard the public at any time an automatic lane barrier becomes inoperative from any cause whatsoever.

If the fault can not be permanently repaired immediately, a temporary repair or remedial measure sufficient to safeguard the operation of the toll management system shall be effected by the Contractor and the Employer shall be so notified. Permanent repairs shall be completed as soon as possible, and in all cases within 96 hours of notification unless extended in unusual circumstances, such as lack of a particular foreign spare part which is not kept in the spare part inventory as provided in "Spare Parts and Consumables."

Failure to meet the response time requirements by the Contractor shall be sufficient cause for the Employer to authorize repairs to be completed by others and deduct the costs of such repair from payments due the Contractor. Repetitive failure shall be sufficient cause for the Employer to terminate the Contract. Failure to effect permanent

repairs within the specified time period by the Contractor may also result in being assessed liquidated damages as described in Section 5.4 "Liquidated Damages" of this Maintenance Specifications.

The cost of corrective maintenance of the failure that is not attributable to the Contractor will be determined by mutual negotiation. The Contractor shall assess the extent of the damage, prepare the remedial plan and estimate the cost. He shall also indicate that the spare parts required is available or not. In the event a specific spare part is not available in the spare parts inventory, the expected delivery time must be shown.

### 5.1 Response Time and Resolution Time

For all cases, the failure shall be classified into three severity levels, critical, major and minor. The Contractor shall satisfy the response time and resolution time specified for each type of failure as presented hereunder.

Severity	Response time	Resolution time	Benchmark
Critical failure	30 minute	2 hours	99 % of cases
Major failure	60 minute	4 hours	98 % of cases
Minor failure	2 hours	36 hours	95 % of cases

**\*Note:** If any of the above failures not resolved within resolution time and non-meeting service levels would attract a penalty for every hour of downtime beyond the downtime permissible.

**“Critical failures”** are defined as follows:

- 1) Halt of active or backup server or both of TCC system.
- 2) Halt of plaza computer system.
- 3) Interruption of active or backup routes of communication link between plaza and lanes and to TCC system.
- 4) Failure that renders two or more lanes at an Tunnel interchange inoperative at any time.
- 5) Failure that renders One lane at Ramp interchange inoperative at any time
- 6) Any failure that renders toll collection inaccurate.
- 7) Any failure that poses immediate hazard to the road user and the public.
- 8) Halt of Uninterrupted Power Supply at all locations
- 9) Halt of RFID Over Head Reader and Hand Held Reader due to any reason

“**Major failures**” are defined as follows:

- 1) Problem that renders a lane inoperative.
- 2) Repetitive error in vehicle classification.
- 3) Interruption of communication link between plaza computer system and toll lane equipment.

“**Minor failures**” are defined as those failures other than critical and major failures listed above.

## **5.2 Inspection of Faulty Parts**

The Contractor shall inspect the faulty part retrieved from the equipment repaired and prepare and submit a report describing the nature of the failure to the Employer’s Representative together with his opinion whether the failure is caused by defect, inadequate operation, act by the third party, normal wear and tear or other reasons.

## **5.3 Fault Report and Work Order**

Each and every corrective maintenance and accident repair work shall be documented on the fault report form and work order form by the Contractor. The Contractor shall prepare and submit the form together with the list of inspection items for the approval of the Employer’s Representative. A copy of completed work order forms shall be submitted with the monthly invoice. No payment shall be made without submitting the completed work order forms. The Fault Reports shall be kept in a log book and shall be made available to the Employer’s Representative upon request at any time.

All maintenance service calls received by the Contractor shall be properly logged in Online call log system in the form approved by the Employer’s Representative with the date, time, name of person received and contents of the call. After resolving the problem contractor has to close the task with date, time and name of person resolved.

## **5.4 Liquidated Damages**

Subject to exceptions as provided in Section 5.1 “Response Time and Resolution Time” and “Spare Parts and Consumables” of these Maintenance Specifications, the Contractor shall be assessed liquidated damages for failure to effect resolution within the specified time limit. Liquidated damages shall be deducted on pro rata basis from payment due to the Contractor as per service levels.

The amount of liquidated damage under various failure conditions shall be as specified hereunder:

Sl. No.	Failure Type	Unit	Amt. per Each Incident (Rs.)
	<b>If Non Maintenance of Service Level:</b>		
1.	Shutdown of both server system at main TCC and sub TCC	System	1,00,000/-
2.	Shutdown of one of the server system at TCC or sub TCC	System	50,000/-
3.	Shutdown of the server system at toll plaza system	System	20,000/-
4.	Failure of communication system between TCC system and any toll plaza system	Location	20,000/-
5.	Failure of communication link between plaza computer system and any of the lane equipment	Location	10,000/-
6.	Failure of any lane equipment that renders the lane inoperative	Lane	5,000/-
7.	Failure of CCTV camera controller	Unit	5,000/-
8	Failure of AVC System	Unit	5,000/-
9	Failure of any type of video camera	Unit	2,000/-
10	Failure of digital video recorder	Unit	10,000/-
11	Failure of uninterruptible power supply	Unit	10,000/-
12 (a)	If Unpaired Transactions are more than 3% on any day	Day	10,000/-
12 (b)	For every 1% increase of Unpaired Transactions above 3% due to any reason	Day	5,000/-
13	Lane Closure due to any Hardware/Software problem	Day	10,000/-
	<b>If Non Deployment of Manpower in a month (on Pro-rata Basis)</b>		
14	Chief Maintenance Engineer	Man Month	2,00,000/-
15	Electrical Engineer	Man Month	1,50,000/-
16	Minimum 25 Engineers	Man Month	45,000/-
17	Minimum 55 Technician	Man Month	30,000/-

**Note:** HGCL has observed that, unpaired transactions are happening to a tune of 2 % to 3% due to non reading of FASTag at entry due to several reasons such as Operational, Maltag, Blacklist of Tag, etc.,

Hard copy of Attendance of all key personnel, Engineers and Technicians should be submitted monthly to HGCL through Application (APP) generated/ Biometric attendance.

The total sum of liquidated damages per month during the maintenance period shall not exceed Fifteen percent (15%) of the monthly contract amount. If exceeds 3 months continuously action will be initiated which may lead to the termination of the contract.

## **6. TMS Equipment's installed, Spare Parts and Consumables:**

The Contractor shall develop and manage a spare parts inventory database system for the spare parts provided to the contractor. All incoming and outgoing spare parts shall be properly recorded. Monthly spare parts report describing the type and quantity of spare parts in stock, added or used in a month shall be prepared and submitted to the Employer's Representative. If the quantity in stock becomes below the reorder line, Contractor shall intimate to the Employer.

The Contractor will be allowed to use the spare parts in the Employer's stock on an as needed basis in order to complete the maintenance work. If a spare part replaced is judged as defective and the Contractor is liable for the defect by the Employer, the Contractor shall immediately replenish it at his cost. Otherwise, the Contractor shall inform the Employer's Representative the use of the spare parts and submit the cost estimate and delivery time to purchase the spare parts at his cost.

Upon termination of the Contract, the Contractor shall surrender all the installed equipment in proper working condition and shall return the HGCL spare parts back to HGCL/Employer Representative in good condition by preparing an inventory.

Any other Spare parts procured by the contractor for maintenance purpose and the same are not utilized in the project during the contract period; the contractor may take back his spare parts.

## **7. Communication Link**

Optical fibre cable installed along the both sides of ORR, layer 3 switch and media converter is installed at each toll plaza office for connection with the traffic control centre under a separate contract with double redundancy. In case of any damage of communication cable, contractor should identify and inform Employer/Employer's Representative for necessary action. Since RFID transaction data has to be sent to CCH within 4 hours of transaction, if data not transferred through communication cable the TMS contractor has to inform toll collection agency to import and export data from TAB to Main TCC to avoid revenue loss during this time.

## **8. Power Supply**

The input power supply of any equipment is not connected to any electric components except arresters without connecting first through fuses, power switches and circuit breakers. The power supply made available at toll plaza building will be 440 volt three phase 4 wire 60 Hz.

All equipment is provided with a clearly visible label indicating the input power supply type (AC or DC) and voltage. All equipment shall operate with the power supply of 240V plus or minus 10 percent, and 50 hertz plus or minus 3 percent. All field equipment shall operate normally under instantaneous power supply interruption of 20 milli-second or shorter.

The power supply voltage available in the field will be 240V AC. unless specified otherwise or with the approval of the Employer's Representative, all field equipment shall be designed to operate directly on 240 V AC. The Contractor shall be responsible for arranging the terminal devices necessary to receive the power. The Contractor shall supply an interruptible power supply at each toll plaza building of suitable capacity with the output of 240 volt single phase.

**9. Additional Responsibilities to maintain TMS System**

- a. It is the responsibility of the Maintenance contractor for repair/replace of any defects/damage of power/ Network cables/equipment such as cable cuts, Cable burning, flooding, etc., Including replacement of HDPE Ducts repair/ replacement.
  - b. It is the responsibility of the Maintenance contractor for civil works like repair to the chambers, replacement of chamber covers, trench excavation at all identified locations and also restoring of ramp plaza connectivity, lane to lane connectivity, etc., during the maintenance period no separate payment will be paid due to this. It is the responsibility of the Maintenance contractor for civil works like damage of equipment foundations etc.,
  - c. The bidders has to provide Pest control services to prevent rat menace, bandicoot's, termite, etc., Pest Control for all 22 Toll Administrative Buildings (TABs), Toll Canopies (TCs) including Toll booths, Ramp Connectivity, Tunnels including Main TCC at Nanakramguda and Sub TCC at Ghatkesar during the contract period at all 23 locations (As and When Required) i.e., @ 1x23 locations x 18 Months= 414 services.
- 10.** The agency has to take the Online/Field Support from the Original Equipment Manufacturer for RFID Overhead Readers etc., to improve the TMS efficiency at his cost.
- 11.** The Bidder shall ensure 100% real time data replication service capabilities to copy data to SDC in real-time.

Facilitation for maintenance of real-time TMS Data in HMDA data centre/State Data

centre as instructed by HGCL.

12. No separate BOQ is provided in the tender document.
13. If new chambers are required to be constructed, HGCL will take up separately through another agency.
14. HDPE ducts are already provided. Any repairs to the HDPE ducts shall be done by the contractor.
15. **Scope of Original System integrator:**

For TMS software support the bidders are hereby informed to consider Rs.7, 00,000/- per month (Non-Negotiable) + GST Extra as software services which is included in the bid price. The services of Original System Integrator (M/s EFKON) has mentioned below.

**Scope of Work (SOW):**

SOW includes complete software support which includes the following:-

- Level 1 software support.
- Level 2 software support.
- Fixing of any bug in installed software.
- Toll Rate Change as and when required by the Employer.

**1. Level 1 software support at Lane and Plaza Level**

For understanding, Level 1 software issues are those which required operational or functional clarification at application level. This includes monitoring production applications and checking errors. This may also includes password reset, account unlock and job restart.

**1.1 Lane Level -**

- Installation of Operating system (Lane and AVC) – OS installation will be done by Maintenance agency.
- Checking and ensuring that schedule software jobs are running on time.
- Installation of Oracle and required software at lane and AVC.
- Installation of lane and AVC proprietary application and firmware.
- Resolving open customer issues.
- Testing of new released application (Lane) including Toll Rate Change – Toll Rate changes at Lane level, Plaza Server, ETC Server, Central Server will be done by Original System Integrator and will be checked and confirmed by Maintenance agency.

- Arranging lane closure and coordinating with Level 2 Maintenance support- Lane Closure will be initiated by Original System integrator and closure will be done by Maintenance agency.
- Analysing issue in lane module and providing inputs to Level 2, if required.
- New lane setup in case of lane crash.
- Maintain the Software versions at Lane.
- Data back up and purging as per the policy defined by Employer/ Employers Representative.

### **1.2 Plaza and control room level -**

- Installation of Operating system in control room system and servers- OS installation of control room system will be done by Maintenance agency and Server OS installation will be done by Original System Integrator.
- Installation of Oracle and required software at control room systems.
- Resolving routine issues like problem in data transfer, report generation etc.
- Testing of new released application (Control Room application).
- Analysing issue in plaza / control centre module and providing inputs to Level 2.
- Daily database backup and storage check.
- Checking and resolving network conflict issues is in Maintenance agency Scope Lane to Plaza and Backbone Network Fiber Connectivity is in Original System Integrator Scope.
- Monitoring and checking time synchronisation issues – Checking will be in Maintenance agency scope. In case of any abnormality Maintenance agency will raise Ticket and Original System Integrator will look into it.
- Installation of Oracle and required software at server level.
- Check Schedule jobs are running on time.
- Data backup and purging
- Maintain the Software versions at Lane / Plaza / Control Room.
- Monitoring and taking Backup of plaza and central database for TMS.

### **2. Level 2 software support at Lane and Plaza Level –**

Level 2 issues are those which require configuration changes which cannot be handled by level 1 support.



### **2.1 Lane Level -**

- Based on Level 1 analysis, close Level 2 Issue.
- Remote Diagnosis of potential issues.
- Assistance in understanding lane functionalities.

### **2.2 Plaza and Control Room Level -**

- Based on Level 1 analysis, close Level 2 Issue.
- Implementing Toll Rate revision as and when communicated by Employer/ Employers Representative..

**Note:** All the issues which cannot be handled at second level support will be analysed and escalated to 3rd level support team. This includes bugs in existing software etc.

### **3. Level 3 software Support -**

Level 3 software supports are bug fixes in the application which might require intervention at code level and database level. Any new development or feature or work flow or any policy changes by NHAI/HGCL/any other Govt. authority which is currently not a part of application and to be rework is not included in L3 support.

It will be treated as change request. Upon receipt of such change request from the employer, Original System Integrator shall calculate the efforts required for development and provide commercial proposal to the Employer. For better clarification following will be covered under change request or new modifications.

- Software customization as per requirement of Employer.
- Any modification in the system architecture & interfaces.
- Any alteration to cater for a specific customer need.
- Any change to the supplied TMS application package.
- Any change in IHMCL/NPCI Policy.

**Note.1:** Employer/ Employers Representative *will issue separate work order to the Original System Integrator for development, Testing and deployment of new software functionalities.*

**Attachment I:**

**Maintenance Equipment Owned by the Employer:**

The following maintenance equipment made available to the Contractor subject to their availability and the conditions:

- Maintenance computer (notebook computer)
- Digital multi meter
- Insulation resistant meter
- Dielectric strength meter
- Ground resistance meter
- Oscilloscope

**Table 1: Number of Lanes by Type at Interchange**

Interchange		Lane Pattern on Hyderabad ORR Project									Total	Remarks
		Number of Hybrid (Manual & RFID) lanes			Number of Dedicated (RFID) lanes			Total Permanent Lanes	Temporary Lane (Only Manual) (Entry/Exit)			
		Entry	Exit	Total	Entry	Exit	Total					
1	Kokapet	2	2	4	2	2	4	8	1	9	1 Temporary Lane	
1A	Neo Polis	1	1	2	2	4	6	8		8		
2	Edulnagulpalli	2	2	4	2	2	4	8		8		
3	Patancheru	1	1	2	4	6	10	12	1	13	1 Temporary Lane	
4	Sultanpur	2	2	4	2	2	4	8		8		
5	Saragudem	2	2	4	1	2	3	7	2	9	2 Temporary Lane	
6	Medchal	2	3	5	3	4	7	12		12		
7	Shamirpet	1	1	2	4	6	10	12		12		
8	Keesara	2	2	4	2	2	4	8		8		
9	Ghatkesar	1	1	2	4	6	10	12		12		
10	Taramatipet	2	2	4	2	2	4	8		8		
11	PeddAmberpet	1	1	2	4	6	10	12	1	13	1 Temporary Lane	
12	Bongalur	1	1	2	2	3	5	7	2	9	2 Temporary Lane	
13	Raviryal	2	2	4	2	2	4	8		8		
14	Tukkuguda	2	2	4	2	2	4	8		8		
15	Pedda Golconda	2	2	4	2	2	4	8		8		
16	Shamshabad	2	3	5	4	6	10	15	3	18	3 Temporary Lane	
17	Rajandernagar	2	2	4	2	2	4	8	1	9	1 Temporary Lane	
18	TSPA	2	2	4	2	2	4	8	1	9	1 Temporary Lane	
18A	Narsingi	1	1	2	1	1	2	4		4		
19	Nanakramguda	1	1	2	4	6	10	12	5	17	(2+3=5) Temporary Lane	
<b>Total</b>		<b>34</b>	<b>36</b>	<b>70</b>	<b>53</b>	<b>70</b>	<b>123</b>	<b>193</b>	<b>17</b>	<b>210</b>		

At present, 17 Temporary lanes were operated manually; since the FASTag usage on ORR is more than 85%, the temporary lanes need to be converted to FASTag lanes. For which, the agency has to install the Equipment for Temporary lanes Like, RFID Readers with Pole, MBC, Traffic Light, ICS Camera, Automatic Lane Barrier, AVC

Profilers (Removal of existing AVC and installation), Booth Cameras, Toll Collector Monitor and Key Board etc., as part of the contract without any additional cost. However, Hardware will be provided by HGCL for installation.

During the progress of work, HGCL has right to convert all the Manual/Hybrid Lanes to Dedicated FASTag lanes, the TMS maintenance agency has to convert the lanes as per the instructions of Employer/Employers representative.

Most of the ramp plaza locations only 2 lanes were provided, the bidder is required to install the equipment for temporary lanes at those locations in addition to the exiting lanes wherever required duly taking approval of Employer/ Employer's representative. However, Hardware will be provided by HGCL to the agency for installation.

**Table 2: Number of CCTV Cameras**

Sl. No.	Interchange	Color Dome	PTZ	Color Surveillance
1.	Kokapet	8	4	9
1A	Neopolis	8	2	5
2.	Idulnagalapalli	8	4	9
3.	Patancheru	12	2	9
4.	Sultanpur	8	4	9
4A	Mallampet			
5.	Saragudem	7	2	9
6.	Medchal	12	2	9
7.	Shamirpet	12	2	9
8.	Keesara	8	4	9
9.	Ghatkesar	12	2	9
10.	Taramatipet	8	4	9
11.	Pedda Amberpet	12	2	9
12.	Bongulur	7	2	9
13.	Ravirayal	8	4	9
14.	Tukkuguda	8	4	9
15.	Pedda Golconda	8	4	9
16.	Shamshabad	15	4	9
17.	Rajandranagar-1	4	4	9
	Rajandranagar-2	4		
18.	TSPA	8	4	9
18A	Narsingi	4	2	5
19.	Nanakramguda	12	2	9
20.	TCC Main Center			9
21.	TCC Sub Center			9
<b>TOTAL</b>		<b>193</b>	<b>64</b>	<b>199</b>

Construction of New interchanges is in progress, the agency has to take this into consideration during

**Employer's Requirements: Maintenance Specifications – Attachment 2: Preventive Maintenance Inspection Item**

**Toll Lane Controller**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Toll lane controller (TLC)	Apparent condition	○			Visual check	Checking condition of rusting, damage, opening and shutting of door. Cleaning
	Real time clock		○		Visual check	Checking the synchronicity with superior clock
	Measuring voltage		○		Check with Instrument	Checking whether Input voltage is within regulated value or not.
	Operation of fan		○		Visual, odor, abnormal noise check	Checking condition of stain, damage, odor, abnormal noise, abnormal vibration, and overheat. Cleaning
	Malfunction of inside the console, Loose of each terminal parts			○	Visual and handling check	Checking condition of trace of dewfall or leaking water, damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Abnormality of Printed board and relay			○	Visual check	Checking condition of dirt, abnormal noise and abnormal odor. Fusion of fuse. Cleaning
	Abnormality of Instrument and Indicator			○	Visual check	Checking the state of lighting of each indicator

**Toll Collector Terminal**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Toll collector terminal (TCT)	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Visual, operation check	Checking the display condition when vehicles are passed.

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
						Working condition of automatic lane barrier by pressing HPMC key.
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Working condition of alarm			○	Visual and handling check	Checking the display condition by generating mock warning.

### Contactless Card Reader / Writer

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Contactless card reader / writer	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Checking reading condition of encoded data and working condition of synchronization with TCT display and user fare display.
	Fixed condition at exterior of the booth			○	Visual check	Checking the loose of fixed condition. It should be tightened if necessary.

### Booth Camera for Surveillance

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Booth camera for surveillance	Apparent condition	○			Visual check	Checking condition of lens, rusting and damage of camera itself and housing part
	Focusing condition		○		Operation check	Adjustment of focus
	Working condition			○	Operation check	Condition of capturing image from CCTV



Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
						monitoring work station
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

### Emergency Foot Switch

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Emergency foot switch	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Condition of causing alarm to lane status display unit and siren.
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

### Intercom Slave Communication Unit

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Intercom slave communication unit	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Communication condition between booth to toll control room.
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

**Manual Lane Barrier**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Manual lane barrier	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Open and close condition
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for dynamic part & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Rusting and damage of support and foundation			○	Visual check	Checking condition of rusting or damage of support and foundation including anchor

**Overhead Traffic Light**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Overhead traffic light	Apparent condition	○			Visual check	Checking condition of rusting, damage and luminance. Cleaning
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Mounted condition on canopy			○	Visual check	Checking loose of mounted condition

**Lane Traffic Light and Arrow Traffic Light**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Lane traffic	Apparent condition	○			Visual check	Checking condition of rusting, damage and

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
light Arrow lane traffic light						luminance. Cleaning
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Rusting or damage of support and foundation			○	Visual check	Checking rusting or damage of support and foundation including anchor

### User Fare Display

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
User fare display	Apparent condition	○			Visual check	Checking condition of rusting, damage and luminance. Cleaning
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

### Automatic Lane Barrier

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Automatic lane barrier	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Open and close condition
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable, dynamic part, terminal parts and loose of terminal parts. The screw should be tightened if necessary.

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
	Rusting and damage of support and foundation			○	Visual check	Checking rusting or damage of support and foundation including anchor

### Amber Siren Beacon

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Amber siren beacon	Apparent condition	○			Visual check	Checking condition of rusting, damage. Cleaning
	Working condition			○	Operation check	Working condition of beacon and siren sound as specified dB level
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

### Incident Capture Camera

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Incident capture camera	Apparent condition	○			Visual check	Checking condition of lens, rusting and damage of camera itself and housing part. Cleaning
	Focusing condition		○		Operation check	Adjustment of focus
	Working condition			○	Operation check	Condition of capturing image from CCTV monitoring work station
	Loose and damage of each terminal parts			○	Visual and handling check	Checking condition of damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
	Rusting and damage of support and foundation			○	Visual check	Checking rusting or damage of support and foundation including anchor

### Automatic Vehicle Classifier System

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Automatic vehicle classifier system	Apparent condition	○			Visual check	Checking condition of rusting and damage including lens. Cleaning
	Malfunction of inside the console, Loose of each terminal parts			○	Visual and handling check	Checking condition of trace of dewfall or leaking water, damages for cable & terminal parts and loose of terminal parts. The screw should be tightened if necessary.
	Abnormality of Printed board and relay			○	Visual check	Checking condition of dirt, abnormal noise and abnormal odor. Fusion of fuse. Cleaning
	Rusting and damage of support and foundation			○	Visual check	Checking rusting or damage of support and foundation including anchor

### Loop Coil for Non-ETC exit direction

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Loop coil for non-ETC exit direction	Apparent condition	○			Visual check	Checking condition of dirt, rusting, damage and abrasion & cracking of surrounding pavement. Cleaning
	Sensitivity adjustment			○	Operation check	Adjustment of inductance
	Calibration test			○	Operation check	Checking detection of passing vehicle
	Traffic comparison			○	Visual check	Comparison of vehicle count between detector

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
						and visual count for 15 minutes.
	Insulation resistance			○	Check Instrument with	Larger than regulated level.

**ETC (RFID)**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
RFID	Apparent condition	○			Visual check	Checking condition of angle of antenna, deformation, rusting and damage. Cleaning
	Transmitter power			○	Check Instrument with	Checking whether transmitted power is within regulated value or not, when antenna is under the situation of continuous wave mode. (-50% to +20% of indicated transmitted power). Conversion from electric intensity at the right under antenna into electric value.
	Frequency			○	Check Instrument with	Checking whether frequency is within regulated value or not, when antenna is under the situation of continuous wave mode. (within $\pm 20$ PPM of indicated frequency) Measuring electric intensity at the right under antenna.
	Transmitted area			○	Check Instrument with	Execution of measurement as per appendix-1
	Loose and rusting of installation bolt.			○	Visual and handling check	Checking loose or rusting of installation bolt. The bolt should be tightened if necessary.
	Rusting and damage of support			○	Visual check	Checking rusting or damage of support and foundation including anchor

**Toll Plaza Server**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Toll server plaza	Apparent condition		○		Visual check	Checking condition of dirt, rusting, damage, deformation and abrasion of coating. Cleaning
	Operation of fan		○		Visual, odor, abnormal noise check	Checking condition of stain, damage, odor, abnormal noise, abnormal vibration, and overheat. Cleaning
	Heat generation		○		Visual and handling check	Checking whether heat is generated or not.
	Defacement, damage and loose of equipment		○		Check by tool and visual	Checking condition of defacement, damage, overheating and disconnection of wire. The bolt should be tightened if necessary.
	Measuring voltage			○	Check with Instrument	Checking whether Input voltage is within regulated value or not.
	Switching behavior			○	Visual and operation check	Checking switching behavior of system and any abnormality after switching.
	Real time clock		○		Visual check	Adjustment of time if necessary.
	Image quality of display		○		Visual and operation check	Adjustment of image quality of display, if necessary.
	Working condition of printer	○			Visual and operation check	Checking clearness of printed paper by using test printing function. Checking whether state of indication is corresponding to state of operation. Checking condition of abnormal noise and abnormal vibration. Cleaning

**Auditor Console**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Auditor's console	Image quality of display		○		Visual and operation check	Adjustment of image quality of display, if necessary.

**Workstation**

Workstation include Audit Workstation, Lane Status Display Workstation, Snapshot Image Workstation, CCTV Monitoring Workstation, Point-of-sale Workstation, TCC Administration Workstation, TCC Reporting Workstation, Financial Management Workstation,

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Workstation	Apparent condition		○		Visual check	Checking condition of dirt, rusting, damage, deformation and abrasion of coating. Cleaning
	Operation of fan		○		Visual, odor, abnormal noise check	Checking condition of stain, damage, odor, abnormal noise, abnormal vibration, and overheat. Cleaning
	Heat generation		○		Visual and handling check	Checking whether heat is generated or not.
	Measuring voltage			○	Check with Instrument	Checking whether Input voltage is within regulated value or not.
	Image quality of display		○		Visual and operation check	Adjustment of image quality of display, if necessary.

**Network Equipment**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		



Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Network equipment	Apparent condition		○		Visual check	Checking condition of dirt, rusting, damage, deformation and abrasion of coating. Cleaning
	Operation of fan		○		Visual, odor, abnormal noise check	Checking condition of stain, damage, odor, abnormal noise, abnormal vibration, and overheat. Cleaning
	Heat generation		○		Visual and handling check	Checking whether heat is generated or not.
	Measuring voltage			○	Check with Instrument	Checking whether Input voltage is within regulated value or not.

**Master Communication Unit**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
Master communication unit	Apparent condition		○		Visual check	Checking condition of dirt, rusting, damage, deformation and abrasion of coating. Cleaning
	Measuring voltage			○	Check with Instrument	Checking whether Input voltage is within regulated value or not.

**TCC Server**

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
TCC Server	Apparent condition		○		Visual check	Checking condition of dirt, rusting, damage, deformation and abrasion of coating. Cleaning
	Operation of fan		○		Visual, odor, abnormal noise check	Checking condition of stain, damage, odor, abnormal noise, abnormal vibration, and overheat. Cleaning

Equipment	Inspection Object	Frequency of inspection			Inspection Method	Inspection Item
		Monthly	Bi-Annual	Annual		
	Heat generation		○		Visual and handling check	Checking whether heat is generated or not.
	Measuring voltage			○	Check with Instrument	Checking whether Input voltage is within regulated value or not.
	Image quality of display		○		Visual and operation check	Adjustment of image quality of display, if necessary.

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**Attachment III:**

List of TMS Equipment Installed at all 21 interchanges of ORR Including Main Traffic Control Centre at Nanakramguda and Sub Traffic Control Centre at Ghatkesar

Item No.	Description	Unit	Qty	Make	Model
<b>C</b>	Manual, Touch & Go and ETC Lane Equipment's				
<b>C1</b>	Toll lane controller	Set	193	Efkon	Custom Built
<b>C2</b>	Toll Lane Controller Industrial PC	Set	193	Advantech	ASMB-784G2
<b>C3.1</b>	Toll collector terminal Display (all lanes)	Set	193	HP Compaq	HP Compaq B191
<b>C3.2</b>	Toll collector terminal Keyboard (all lanes)	Set	210	Cherry	G86-63400EUAEAA
<b>C3.3</b>	Toll collector terminal Printer (exit lane)	Set	210	EPSON	TM – 88 IV
<b>C4a</b>	Contactless Smart card reader / writer for indoor use	Set	181	Efkon	Custom Built
<b>C4b</b>	Contactless Smart card reader / writer for outdoor use	Set	181	Efkon	Custom Built
<b>C5</b>	User Fare Display with Lane Traffic Light System	Set	193	Photonplay	-
<b>C6</b>	Intercom slave communication unit inside the toll booth	No	85	AIPhone	NI-BA
		No	96	AIPhone	IX-BA
<b>C6.1</b>	POE Switch	Set	30		
<b>C7</b>	Panic alarm system	Set	193	Iota	CAP123
<b>C8</b>	Overhead traffic light	Set	193	Photonplay	-
<b>C9</b>	Incident capture camera	Set	181	Panasonic	WV-CW314L
		Set	28	Hikvision	
<b>C10 (a)</b>	Automatic vehicle classification system (Controller)	Set	181	Efkon	Custom Built
<b>C10 (b)</b>	Automatic vehicle classification system (Profiler)	Set	181	Efkon	Custom Built
<b>C11</b>	Automatic Lane Barrier	Set	193	Elka	T-3000
<b>C12</b>	Manual lane Barrier	Set	193	Efkon	Custom Built
<b>C13</b>	Flashing light(Fog Light System)	Set	193	Photonplay	-
<b>C14</b>	Card stacker	LS	181	Efkon	Custom Built
<b>E</b>	Plaza Level Equipments				
<b>E1</b>	PCS Server	Set	21	Lenovo	x3650 M5
	RFID PCS Server	Set	22	Lenovo	HPE DL 360 GEN 10
<b>E2</b>	Audit Workstation	Set	21	Lenovo	Lenovo™ ThinkStation® P310 Workstation
<b>E3</b>	Lane status display workstation	Set	21	Lenovo	Lenovo™ ThinkStation® P310 Workstation
<b>E4a</b>	Snapshot Image Workstation	Set	21	Lenovo	Lenovo™ ThinkStation® P310 Workstation

Item No.	Description	Unit	Qty	Make	Model
E4b	CCTV Workstation	Set	22	Lenovo	Lenovo™ ThinkStation® P310 Workstation
E5	Tour Of Duty (TOD) workstation	Set	21	Lenovo	Lenovo™ ThinkStation® P310 Workstation
E5.1	Contactless Smart card reader / writer for Indoor use	Set	19	Efkon	Custom Built
E6	POS workstation	Set	21	Lenovo	Lenovo™ ThinkStation® P310 Workstation
E7	POS Smart card reader	No.	19	Efkon	Custom Built
E8	POS Receipt printer	No.	19	EPSON	TM-U220
E9	Laser printer (color) (Audit & Snapshots)	Set	19	HP	HP Color LaserJet Pro M452dn
E10	Laser printer (B/W) (Plaza Reporting)	Set	19	HP	HP LaserJet Enterprise M506N
E11	Laser printer (B/W) (TOD)	Set	38	HP	HP LaserJet Enterprise M506N
E12	Master Intercom (20 Channels)	Set	11	AIPhone	NIM-20B
		Set	8	AIPhone	IX-BA
		Set	3	AIPhone	IX-MV
E13	Slave Intercom inside plazas	No.	44	AIPhone	NI-BA
		No.	32	AIPhone	IX-BA
E14	Slave Intercom for Main Entrance, Main Gate & Staff Gate (Outdoor Type)	No.	33	AIPhone	NI-JA
		No.	24	AI Phone	IX-SS
F	Traffic Control Center Equipments				
F1	TCC Server	Set	2	Lenovo	ThinkServer RD450
	RFID TCC Server	Set	2		
F2	TCC Administration Workstations	Set	8	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F3a	TCC reporting workstation	Set	4	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F3b	Financial Management Workstation	Set	4	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F4a	TCC Image Snapshot Workstation	Set	4	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F4b	CCTV Workstation	Set	4	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F5	TCC Operations Laser Printer(Color)	Set	2	HP	HP Color LaserJet Enterprise M750dn

Item No.	Description	Unit	Qty	Make	Model
F6	TCC Operations Laser Printer(B/W)	Set	2	HP	HP LaserJet Enterprise M712dn
F7a	POS workstations	Set	4	Lenovo	Lenovo™ ThinkStation® P310 Workstation
F7.1	Smart card personalization printer	No	2	Zebra	ZXP3
F7.2	Smart card personalization printer software	No	2	Zebra	-
F7b	GSM Modem	Set	2	Visiontek	GSM Modem 82GM
F7c	Contactless Smart card reader / writer for Indoor use	No	4	Efkon	Custom Built
F8	POS operations laser printers(B/W)	Set	2	HP	HP LaserJet Enterprise M712dn
F9	Smart Cards for use as Transit Card	No	2,50,000	Mifare	-
F10	Smart card for personal identification	No	900	Mifare	-
F11	Smart Card for POS testing	No	300	Mifare	-
<b>G</b>	<b>Software</b>				
<b>G1</b>	<b>Third Party Software</b>				
G1.1	Windows Server 20 License	No	46	Microsoft	Windows 2012
G1.2	Windows XP Embedded with Service Pack 2	No	193	Microsoft	Windows 7
G1.3	ORACLE Latest Version	No	46	Oracle	-
G1.4	Antivirus with Firewall	No	21	Symantech	-
<b>G2</b>	<b>Toll Plaza Lane Software</b>				
G2.1	Manual & Touch &Go Entry lane system software	No	82	Efkon	Custom Built
G2.2	Manual & Touch &Go Exit lane system software	No	99	Efkon	Custom Built
G2.3	ETC Lane Entry and Exit Software	No	193	Efkon	Custom Built
	Manual Lane Software	No	17	Efkon	Custom Built
<b>G3</b>	<b>Toll Plaza PCS Software</b>				
G3.1	PCS Server Software	No	21	Efkon	Custom Built
G3.2	Audit and reporting software	No	21	Efkon	Custom Built
G3.3	Lane status display system software	No	21	Efkon	Custom Built
G3.4	Snapshot Image Workstation Software	No	21	Efkon	Custom Built
G3.5	Tour of duty system software	No	21	Efkon	Custom Built
G3.6	Incident Management Software	No	21	Efkon	Custom Built
G3.7.1	POS Client Software	No	21	Efkon	Custom Built
G3.8	Bank-in Software	No	21	Efkon	Custom Built
<b>G4</b>	<b>TCC Software</b>				
G4.1	TCC Server Interface	No	2	Efkon	Custom Built
G4.2	TCC Audit Software	No	2	Efkon	Custom Built

Item No.	Description	Unit	Qty	Make	Model
<b>G4.3</b>	TCC reporting Software	No	2	Efkon	Custom Built
<b>G4.4</b>	Snapshot Image TCC Central Software	No	2	Efkon	Custom Built
<b>G4.5</b>	POS Central Software	No	2	Efkon	Custom Built
<b>G5</b>	Utility software	No	1	Efkon	Custom Built
<b>G6</b>	Maintenance Activity Tracking And Logging Software	No	1	Efkon	Custom Built
<b>H</b>	Closed Circuit Television (CCTV) Equipments				
<b>H1</b>	Dome camera inside the booth	No	181	Panasonic	WV-CW334
		No	12	Hikvision	
<b>H2</b>	Plaza Surveillance Camera with PTZ functions	No	60	Panasonic	WV-CW590
		No	6	Hikvision	
<b>H3</b>	Plaza Building Security Surveillance Camera	No	204	Panasonic	WV-CW334
<b>H4</b>	Camera controller keyboard unit	No	21	Panasonic	WV-CU650
<b>H5</b>	32Channel PC Based DVR system	No	21	Panasonic	WJ-HD716
	32 Channel PC Based NVR	No	3	Hikvision	
<b>I</b>	Network Equipments				
<b>I1</b>	Layer 2 Switch 12 port	set	60	Cisco	Cisco Catalyst 2960-plus 24TC-L
<b>I2</b>	Layer 2 Switch 24 port	set	32	Cisco	Cisco Catalyst 2960X-24TS-L
<b>I3</b>	Media Convertor	set	130	Cisco	GLC-LH-SMD
<b>I4</b>	Network Patch Panel	set	21		
<b>I5</b>	Network Rack	set	23	WQ India	
<b>J</b>	Cables				
<b>J1</b>	Power cables required for all the lane equipments	Set	193	Polycab	
<b>J2</b>	Earthing Cables	Set	80	Polycab	
<b>J3</b>	Data & Control Cables required for the lane equipments	Set	193	Polycab	
<b>J4</b>	Network Ethernet cables	Set	23	Dlink	
<b>J5</b>	Network Fiber optic cables	Mtr	12,405	Aksh	
<b>J6</b>	Communication Cables	Set	193	Polycab	
<b>J7</b>	CCTV Video Cables	Set	21	Polycab	
<b>K</b>	Power Conditioning Equipments				
<b>K1</b>	UPS Power Supply with 30 minute backup (30KVA)	No	14	Emerson	Hipulse D
<b>K2</b>	UPS Power Supply with 30 minute backup (40KVA)	No	8	Emerson	Hipulse D
<b>K3</b>	Power Distribution Board at Plaza Building	No	21	Efkon	Custom Built
<b>K4</b>	Power Distribution Board at Booth Level	No.	193	Efkon	Custom Built
<b>M</b>	RFID System				

Item No.	Description	Unit	Qty	Make	Model
M1	TCC Server	Set	2	HP	
M2	Window Server OS	Set	24	Microsoft	Windows Server 2019
M3	Plaza Computer Server (PCS)	Set	22	HP	HPE DL 360 GEN 10
M4	ETC transceiverAntenna/RFID Reader including Pole with mounting arrangement	Nos.	193	STAR	
M5	Router for RFID HHT and required cables	Nos.	120	Cisco / Dlink	
M6	HHT Reader	Nos.	97	Motorola / chainway / Seuiz	
M7	Oracle Database Standers	Set	48	Oracle	
M8	Loop with Loop detector	Set	193		
N	QR Code System				
N1	QR code Reader for manual and Touch & Go Lane		181	Zebra	DS-2208 2D Scanner
N2	Stand for QR Code Reader for Mannual and Touch & Go Lane		181	Zebra	DS-2208 2D Scanner

**Note:** With regard to Three (3) new Interchanges, works are in progress at Narsingi (4 Lanes) and Neo Polis (8 Lanes). However, after installation of the equipment, the agency has to maintain the same as and when operations are started. With regard to Mallampet (8 lanes) interchange, works are to be taken up

**Attachment IV:  
Mandatory Spare parts Available at Store (Owned by HGCL)**

Item No.	Description	Unit	Make	Model	BoQ Qty	Stock in Hand
L	Mandatory Spare Parts					
L1	Toll lane controller	Set	Efkon	Custom Built	5	5
L2	Toll Lane Controller Industrial PC	Set	Advantech	ASMB-784G2	5	5
L3.1	Toll collector terminal Display (all lanes)	Set	HP Compaq	HP Compaq B191	5	5
L3.2	Toll collector terminal Keyboard (all lanes)	Set	Chery		5	5
L3.3	Toll collector terminal Printer (exit lanes)	Set	EPSON	TM – 88 IV	5	5
L4	Contactless Smart card reader/writer	Set	Efkon	Custom Built	10	10
L5	User Fare Display with Lane Traffic Light System	Set	Photonplay	-	5	5
L6	Intercom slave communication unit inside the toll booth	No	AIPhone	NI-BA	5	5
		No	AIPhone	IX-BA	5	5
L6.1	POE Switch	No			2	2
L6.2	Master Intercom IP 20 Channels	No	AIPhone		2	2
L6.3	Master Intercom Analog 20 Channels	No	AIPhone		1	1
L7	Panic alarm system	Set	Iota	CAP123	5	5
L8	Overhead traffic light	Set	Photonplay	-	5	5
L9	Incident capture camera	Set	Panasonic	WV-CW314L	5	5
L10	Automatic vehicle classification system	Set	Efkon	Custom Built	5	5
L10	Automatic vehicle classification system	Set	Efkon	Custom Built	5	5
L11	Automatic lane barrier for Manual and Touch & Go Lane	Set	Elka	T - 3000	7	7
L12	Automatic lane barrier for ETC Lane	Set	Elka	T - 3000	4	4
L13	Manual Lane Barrier	Set	Efkon	Custom Built	5	5
L14	Flashing light(Fog Light System)	Set	Photonplay	-	10	10



Item No.	Description	Unit	Make	Model	BoQ Qty	Stock in Hand
L15	ETC lane controller	Set	Efkon	Custom Built	2	2
L17	Optical Barrier with loop coil system	Set	Not Used		2	2
L18	Arrow Type Direction Traffic light	Set	Photonplay		2	2
L19	Loop Coil for Non ETC Exit direction	Set			2	2
L20	Dome camera inside the booth	No	Panasonic	WV-CW334	5	5
L21	Plaza Surveillance Camera with PTZ functions	No	Panasonic	WV-CW590	2	2
L22	Plaza Building Security Surveillance Camera	No	Panasonic	WV-CW334	10	10
L23	Camera controller keyboard unit	No	Panasonic	WV-CU650	2	2
L24	32Channel PC Based DVR system	No	Panasonic	WJ-HD716	2	2
L25	Layer 2 Switch 24 port	set	Cisco	Cisco Catalyst 2960X-24TS-L	5	5
L26	Media Convertor	set	Cisco	GLC-LH-SMD	10	10
L27	Optical Barrier	set			23	23
L28	Arrow Type Direction Traffic light	set	Photonplay		23	23
L29	Automatic lane barrier	set	Elka	T-3000	46	46
L30	Automatic Vehicle Classification (Controller)	Set	Efkon	Custom Built	5	5
L31	ETC Transceiver Antena/RFID Reader including Pole with mounting arrangement	Set	Star		25	25
L32	Loop with Loop detector	Set			5	5
L33	QR code Reader for manual and Touch & Go Lane	Set	Zebra	DS-2208 2D Scanner	10	10
L34	Stand for QR Code Reader for Manual and Touch & Go Lane	Set	Zebra	DS-2208 2D Scanner	10	10

**\*\*Note:** The above spare parts owned by HGCL kept at stores. If require, the Contractor may use during the contract period duly intimating to the HGCL /Employer Representative. Upon termination of Contract, the Contractor shall handover all the above spares in working condition as per Clause 6 of Maintenance specification. .

**ATTACHMENT V:****Anticipated list of Spare parts to be required by agency for effective maintenance of TMS**

<b>S. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Unit</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>A</b>	<b>Anticipated Spares</b>		
<b>1</b>	Toll lane controller spares-Mother board as used in LC	22	Nos.
2	Toll lane controller spares-Power supply for mother board	22	Nos.
3	Toll lane controller spares-DC PSU	22	Nos.
4	Toll lane controller spares-Fan	44	Nos.
5	Toll lane controller spares-IO card	22	Nos.
6	Toll lane controller spares-MBC card	22	Nos.
7	Toll lane controller spares-Hard Disk	40	Nos.
8	TC monitor (Maintenance)	22	Nos.
9	TC keyboard (Maintenance)	22	Nos.
10	Thermal Printer	22	Nos.
11	User Fare Display with Lane Traffic Light System spares-Display PSU	22	Nos.
<b>11</b>	<b>User Fare Display with Lane Traffic Light System spares-Display card</b>	22	Nos.
<b>12</b>	<b>Lane Traffic Light System spares-Display card</b>	22	Nos.
<b>13</b>	<b>User Fare Display with Lane Traffic Light System spares-CPU</b>	22	Nos.
<b>14</b>	<b>Lane Traffic Light System spares-CPU</b>	22	Nos.
14	Intercom slave communication unit inside the toll booth	22	Nos.
15	Panic alarm system spares-Panic switch	22	Nos.
16	Panic alarm system spares-Siren	22	Nos.
17	Panic alarm system spares-Lamp	22	Nos.
18	Overhead traffic light-Display PCB	22	Nos.
19	Overhead traffic light-PSU	22	Nos.
20	Incident capture camera (IP)	22	Nos.
21	Booth Monitoring Cameras (IP)	22	Nos.
22	Plaza Surveillance Cameras	12	Nos.
23	DVR/NVR Incl. necessary Hardware to Support 32 Channel	4	Nos.
24	Manual Lane Barrier including Support Stand	22	Nos.
25	Manual Lane Barrier limit switch	44	Nos.
26	Flashing light (Fog Light System)-Display PCB	22	Nos.
27	Flashing light (Fog Light System)-Power supply	22	Nos.

<b>S. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Unit</b>
28	D-Link Wifi Router for Handheld Readers/Toll Plaza	25	Nos.
29	Loop Coil	4	Nos.
30	Sealant pack of 9 ltr	10	Nos.
31	RFID Reader (Overhead) (Maintenance)	12	Nos.
32	Layer 2 Switch 24 port	8	Nos.
33	Media Convertor	25	Nos.
34	Intercom Master communication unit Control Room Anolog	2	Nos.
35	Intercom Master communication unit Control Room - IP	2	Nos.
36	Automatic Lane Barrier	5	Nos.
37	Replacement of Existing UPS batteries -65 AH/12V SMF for 30 KVA/40KVA	330	Nos.

\*Note: The above list is provided only for information purpose, to maintain the service levels as mentioned in the Maintenance specifications the agency may require to procure other than listed above as per the requirement. Any other Spare part/Items required for maintenance of TMS System at all the Toll Plazas, the agency has to account for it to meet the SLA during the Maintenance period and no additional cost will be paid for it.

If in case any of Equipment/Spare part, etc., which was installed in the project is absolute in the market, it is the responsibility of the contractor to replace with same or higher configuration at his own cost in consultation with original System Integrator and Employers representative. However, the agency has to meet the SLA as per agreement.

In case of any up gradation or change of Technology, the agency has to take prior approval of Employer and also coordinate with the Original System Integrator for necessary changes. However, the necessary cost towards change of Technology has to be borne by the agency.

**Anticipated/Approximate Quantity of cables may be required to be maintained in case of damage to the existing cable during the maintenance of TMS contract**

S. No.	Description	Qty.	Unit
1	2	3	4
<b>B</b>	<b>Power Cables and Network Cables</b>		
1	Supply of 3C 1.5 Sq mm. PVC / XLPE Insulated, Flexible Armouring Flexible Copper cable as per IS 7098 / Part-I / 1988 including all transportation charges etc complete. Makes : Finolex / RR kabel / Havells / Polycab / RPG /KEI / Gloster / V-Guard	3,000	RMT
2	Supply of 2C 1.5 Sq mm. PVC / XLPE Insulated, Flexible Armouring Flexible Copper cable as per IS 7098 / Part-I / 1988 including all transportation charges etc complete. Makes : Finolex / RR kabel / Havells / Polycab / RPG /KEI / Gloster / V-Guard	4,000	RMT
3	Supply of 4C 10 Sq mm Sq mm. PVC / XLPE Insulated, Flexible Armouring Flexible Copper cable as per IS 7098 / Part-I / 1988 including all transportation charges etc complete. Makes : Finolex / RR kabel / Havells / Polycab / RPG /KEI / Gloster / V-Guard	3,000	RMT
4	Supply of 1 Core 2.5 Sq.mm WPSC (Weather Proof Single Core) ISI Alluminium Wire. Makes : Polycab / GM / Million / V-Guard / Gold Medal / Kundancab / HPL / RPG / Nandicab / Nakoda / Payal / Finecab / Gemini / Vimal / Suncab / Stanjo / Rajnigandha / Orbit / Airson.	2,500	RMT
5	Supply of 1 Core 3.5 Sq.mm PVC / XLPE Insulated Sheathed Multi Core Bright Annealed Bare Copper Conductor Heavy Duty Industrial Cables for Voltage Grade upto 1100 Volts as per IS: 694:1990 including all transportation charges etc complete. Makes : Nakoda / Sun cab / Sudhakar / Powerflex / Gemni / Ollvin / Delton / Airson / HPL	2,000	RMT
6	Supply of 12 Core (Indoor / Out door), Single mode armourd, Optic fibre cable. Makes : D Link / AMP / Molex / Legrand / Krone.	10,000	RMT
7	Network Cable ( CAT 6)	10,000	RMT

**\*Note:** The above list/Quantity is provided only for information purpose. To maintain service levels, any defects/damage in any other type of power/ data cables, the contractor shall replace cables / ducts at his cost.

**Minimum Key personnel and Man power (maintenance team) to be deployed during the Contract Period**

<b>C</b>	<b>Maintenance Team</b>	
1	Chief Maintenance Engineer should be Graduation in Electronics/ Information Technology/Systems Engineering/Computer	<b>1 person /month</b>
2	Electrical Engineer including with atleast a graduate in Electronics, Electrical Engineering, or Systems Engineering	<b>1 person /month</b>
3	Engineers with Minimum Degree Qualification with minimum 2 years of Field Experience in similar works	<b>25 person /month</b>
4	Technician with minimum Graduation/ITI Qualification with minimum 1 year of Field Experience in similar works	<b>55 person /month</b>
5	Security Guards to safeguard the spare parts at store (24x7)	<b>3 person /month</b>

**\*Note:** To maintain the service levels as mentioned in the Maintenance specifications, the agency is at liberty to engage additional manpower in addition to the above for which no additional payment shall be made.

Provision is made in the estimate for deploying Two (2) technicians and One (1) Engineer for 22 interchanges (19+3). The 3 new interchanges under construction and will be put into use in a phased manner soon after completion. Accordingly, the deployment of the above personnel has to be commended, an amount of Rs. 35,000/- for each Field Engineer and Rs. 28,000/- for Each Technician will be recovered from the monthly bills till the new interchanges will be put into operation, for which deployment of personnel to be commended.

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**ATTACHMENT VI:****List of Existing Insurance Taken By Present Agency for Equipment**

<b>POLICY NO.</b>	<b>Name of the Issuer</b>	<b>Insurance Premium</b>	<b>Date of Issue</b>	<b>Date of Expiry</b>
11060044215800000006	THE NEW INDIA ASSURANCE CO. LTD	1,38,705	05-07-2022	04-07-2023
11060044215800000007		1,30,423	05-07-2022	04-07-2023
11060044215800000008		1,33,344	05-07-2022	04-07-2023
11060044215800000009		1,31,872	05-07-2022	04-07-2023
11060044215800000010		1,34,675	05-07-2022	04-07-2023
11060044215800000011		1,34,856	05-07-2022	04-07-2023
11060044215800000012		1,37,357	05-07-2022	04-07-2023
11060044215800000013		1,38,537	05-07-2022	04-07-2023
11060044215800000004		Third Party	17,702	25-07-2022
	<b>Total Amount (A+B)</b>	<b>10,97,471</b>		

\*If Insurance is not available for any Equipment it is the contractor responsibility for any damage.

Premium towards insurance for Manpower and Equipment will be reimbursed as per actual during the contract Period.

The List of existing policies as shown in attachment VI is indicative only. Insurance in respect of Manpower deployed under the contract if not covered in the list is also reimbursable as per actual subject to a ceiling of total amount of Rs. 6.5 Lakhs per annum for manpower.

As per foot note to the attachment no.VI if insurance is not available for any equipment, the TMS Maintenance Agency can obtain new insurance policy, which will be reimbursed as per actual as provided in schedule B under reimbursable expenditures.

**SCHEUDLE-A (Part -1)**

<b>Quantity</b>	<b>Description</b>	<b>Work Type</b>	<b>Item Short Description (up to 100 Characters)</b>	<b>APSS / Morth Clause No. (Up to 200 Characters)</b>	<b>Rate in INR per Qtr (up to 2 Decimals)</b>	<b>UOM (up to 50 Characters)</b>	<b>Amount in INR (up to 2 Decimals)</b>
6	Comprehensive Maintenance of Existing Toll Management System (TMS) at 22 interchanges including Main Traffic Control Center at Nanakramguda and Sub Traffic Control Center at Ghatkesar, on ORR Hyderabad for Two (2) Years	Maintenance	TMS System Maintenance for 22 interchanges	TMS System Maintenance for 22 interchanges	<b>1,40,73,008</b>	LS	<b>8,44,38,045</b>

Provision is made in the estimate for deploying Two (2) technicians and One (1) Engineer for 22 interchanges (19+3). The 3 new interchanges under construction and will be put into use in a phased manner soon after completion. Accordingly, the deployment of the above personnel has to be commended, an amount of Rs. 35,000/- for each Field Engineer and Rs. 28,000/- for Each Technician will be recovered from the monthly bills till the new interchanges will be put into operation, for which deployment of personnel to be commended.

## SCHEUDLE-B (Part-2)

Sl.No.	<b>Reimbursable Expenditures</b>
1	GST @ 12%
2	Premium towards insurance for Manpower and Equipment will be reimbursed as per actual during the contract period.
3	As-Built Drawings of Existing TMS are available with HGCL. If any updates are incorporated in the TMS system during the maintenance period by the maintenance agency, one set of As-Built Drawings need to be submitted by the Maintenance agency. Cost of six printed copies will be reimbursed as per actual on production of original bills.



### **SCHEDULE-C (Part-3)**

#### Drawings

Drawings are furnished are only available drawings with HGCL in the tender, the contractor may revise drawings as per contract if required.