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CHENNAI PORT TRUST

BUDGETARY OFFER

No.MEE/EC3/094/2015/Dy.CME (EC&OS)



**BUDGETARY OFFERS ARE INVITED
FOR THE SUPPLY, INSTALLATION,
TESTING, COMMISSIONING AND
MAINTENANCE OF ON-LINE WEB
BASED ISPS COMPLIANT RFID
CONTROLLED HARBOUR ENTRY
PERMIT SYSTEM COMPLETE WITH
ALL ACCESSORIES INCLUDING
TECHNICAL SUPPORT STAFF UNDER
“LEASE OPERATING METHOD” FOR
A PERIOD OF 6 YEARS.**

ISO 9001:2008



Certified
Company

**LAST DATE FOR SUBMISSION:
21/02/2018**

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SCHEDULE "A"

1. GENERAL:

Chennai Port Trust invites Budgetary Offers for **Supply, Installation, Commissioning and Maintenance of On-line Web based ISPS Compliant RFID Controlled Harbour Entry Permit System complete with all accessories including Technical Support Staff under "Lease Operating Method"** initially for a period of 6 years with a provision to extend the work for a further period of 3 years as per the Technical Specification detailed below: -

2. EXISTING SYSTEM:

In the Chennai Port approximately 2000 vehicles and 4000 individuals enter/exit every day in the restricted Harbour area. The above figure may increase in future based on the volume of Cargo handled by the Port every year. The daily entry/exit details of the Vehicles/Individuals of the Port are as follows:

Gates	IN/ OUT	Lanes	Working Hours	Types of Vehicle Entry/Exit	Average vehicle Entry/ Exit per day	Whether Pedestrians are allowed (Yes/No)	Remarks
Gate 1	IN	1	24 hrs.	TRAILERS/ ODC	400	No	All the Container Trailers & Empty Trailers including ODC Entry/Exit in this gate only.
		2	24 hrs.	TRAILERS	400	No	
		3	24 hrs.	TRAILERS	400	No	
		4	24 hrs.	TRAILERS	400	No	
	OUT	1	24 hrs.	TRAILERS	400	No	
		2	24 hrs.	TRAILERS	400	No	
		3	24 hrs.	TRAILERS	400	No	
		4	24 hrs.	TRAILERS/ ODC	400	No	
Gate 2	IN	-	24 hrs.	TANKERS, EMPTY TRUCKS, LMVs, Two wheelers	240	YES	No Container bound Trailers & Empty Trailers including ODC Entry/Exit in this gate.
	OUT	-	24 hrs.	LMVs and Two Wheelers	-	YES	
Gate 2A	IN	-	-	-	-	No	No Container bound Trailers & Empty Trailers including ODC Entry/Exit in this
			2300 hrs. to	Only Tankers			Entry/Exit in this

	OUT	-	0500hrs.		60	No	gate.
Gate 3	IN	-	0500 hrs. to 2300 hrs.	Only two wheelers are allowed	-	YES	-
	OUT	-					
Gate 5	IN	-	24 hrs.	-	-	YES	Only Pedestrians
	OUT	-					
Gate 7 (Old)	IN	-	0500 hrs. to 2300 hrs.	-	-	YES	Only Pedestrians
	OUT	-					
Gate 7	IN	-	24 hrs.	Bus, LMVs, Small trucks & Two wheelers	100	YES	-
	OUT	-					
Gate 10	IN	1	24 hrs.	Car Carriers, Empty Trucks, LMVs and Two Wheelers	200	YES	(i) No Container bound vehicles Enter in this gate (ii) Vehicles are allowed in 2 lanes from 2300 hrs. to 0500 hrs.
		2					
	OUT	1	24 hrs.	Car Carriers, Empty Trucks, LMVs and Two Wheelers	250	YES	
		2					

In the above mentioned gates, CISF staff verifies the Pass and allow the Vehicle/Individual into the Harbour. The gate CISF staff maintaining a register regarding Vehicle Registration No., Cargo details and the date and time of vehicle entry/exit.

The types of vehicle enter/exit through a particular gate as mentioned above may change as per the requirement of Chennai Port in future.

Harbour Entry Permits are issued at the following locations: -

1) Main Pass Section (Opposite to Custom's Office)

- a) General Shift - 3 Counters
- b) I & II Shift - 5 Counters

- 2) Madhavaram Pass Section: General Shift -1Counter
- 3) Thiruvottiyur Pass Section: 3 Shifts - 1 Counter

On submission of Port Users requisition letter for obtaining daily, weekly, monthly, yearly & 3 years for individuals/vehicles, entry passes are issued after verification of the furnished details and based on the recommendation of the Port official concerned by collecting necessary charges.

RFID System has already been implemented in Chennai Port for the Seamless Container movement by the National Association of Container Freight Stations, Container Terminals and Customs.

3. BRIEF OF WORK:

The work involves Supply, Installation, Testing and Commissioning of RFID controlled HEP System complete with all accessories including necessary hardware, software and LAN cabling (except existing OFC cabling) at 10 locations of the Port i.e., Main Pass Section (HEP Issuing Office/Centralized Server Room), Gate Nos. 1, 2, 2A, 3, 5, 7(old), 7, 10, Oil Dock, including Comprehensive Annual Maintenance Contract (CAMC) for the entire contract period with Technical Support Staff. The software should integrate with Chennai Port Trust's Enterprise Resource Planning (ERP)/Port Operating Management System (POMS) / Port Community System(PCS). The entire work shall be carried out as per the instructions of the Trust's Engineer.

Work Details:

A. To study the requirement of Design and Planning for the entire system

(i). It is to note that the requirement of Chennai port is unique and cannot be compared with other organization. Bidders are required to study the requirement of ChPT and submit their bid.

(ii). Vendor must study the existing HEP system, and ensure that all the available data is migrated to the proposed application software.

(iii). Vendor after a detailed AS-IS study and BPR should submit all essential documents High Level System Design, User Manual, System Manual, Process flow diagram etc... of the proposed project to the port officials before development works.

B. Developing of tailor-made Web Based software

The Port expects from the bidder to develop the software specifically for Chennai Port's requirement. The Intellectual Property Right (IPR) of the web based software will remain with the Chennai Port.

Web based Card Issuance Module is as detailed below:

- User Registration Module
- Payment Module
- HEP Application Module
- HEP Generation Module
- Gate Verification Module
- Blacklist/Debar Module
- RFID Card Management Module

C. Uploading of web based application software in the domain

Installing of Web Based Application software, Database and related activities including Security measures.

D. Supplying of Servers and also the required software as specified in the BOQ

The contractor should supply the servers along with software as per the requirement of the proposed system. The specifications mentioned in the BOQ are the minimum requirement as proposed by the Chennai Port. Supply of Operating System, Database licenses, Application software licenses and any other licenses required including up-gradation of licenses for the entire period is within the scope of this Project.

E. Supplying of required hardware as specified in the BOQ

The contractor should supply as per the requirement of the proposed system. The specifications mentioned in the BOQ are the minimum requirement as proposed by the Chennai Port.

F. Supplying of HF Cards with different colours for vehicle, individual, foreigner and essential

30,000 Nos. of READ/WRITE RFID HF cards should be supplied as required by the Chennai Port.

G. Installation & Commissioning of entire System

Installation & Commissioning of the supplied hardware, existing computers, peripherals including LAN available at the Main Pass Section and the LAN available at the Port gates are all within the scope of the Project.

H. Training to the Port Staff

The contractor should train the Port staff regarding operation of the software. The Technical staff of the contractor must be available in all the 3 shifts at the Main Pass Section to assist the Port Pass Section operators.

I. Upgrading of software as and when required

This RFID system will be capable of upgrading to document verification system to mitigate the congestion in the Port in future. The contractor should abide the changes of rules framed by the Port from time to time. Any such modifications/up gradation to the software is more important for the Port and the same must be taken into consideration.

J. Maintenance of the entire system initially for a period of 6 years.

The engaged technical staff should maintain the required spares/accessories round the clock. Also to undertake periodic health check to the servers and hardware and make sure that the entire system is in perfect working condition, initially for a period of 6 years with a provision to extend the work for a further period of 3 years, if required.

4. PROPOSED SYSTEM:

HF Readers should be installed in all the Port Gates and RFID HEP based Transferable HF Cards are to be issued to all the vehicles and individuals. The Central Servers should be installed at the ground floor of the Main Pass Section.

To improve the efficiency at terminal gates, the vehicle movement details may be imported from the third party System in co-ordination with the Traffic Department to generate the reports through the proposed RFID System.

Since the RFID System is web based, the Thiruvottiyur and Madhavaram Pass Sections will be closed, thereby the Main Pass Section will be operational in 3 shifts. The existing Port Pass Section staff will be utilized in Main Pass Section for the issuance of HEP.

In case of Commercial Users, if the Primary Port users return the HF cards in bulk quantity, the amount would be refunded.

In case of Non-Commercial Users, the HF Cards issued as valid passes on the approvals of the HODs (HOD Passes/Visitors/Delegates/Students, etc.) would be returned back.

Though the Chennai Port provides OFC network in Ring topology, the bidder should verify the requirement of the network and design the system to ensure zero down time due to network failures. If any hardware requires to the system, the bidder can install the same.

- Each RFID HEP must have unique Chip Serial Number (CSN)
- It should be ensured that the HF readers to be placed at the Gates in the proposed system are capable of reading the existing biometry identity cards issued to the port employees. Vendors to cater to the reporting requirements as and when required by the port officials.

The proposed RFID System will be an integrated intelligent system comprising the following subsystems:

A. LED visuals for vehicles/individuals for the verification of CISF:

- CISF staff at the gate will check the vehicle Registration No. and authorized person's details including photograph on the LED display screen with Green colour background.
- When the expired pass or a blocked pass is detected on the RFID Access Control Readers, then the LED screen with Red colour display background will indicate immediately to alert the CISF staff.

B. Online web based Pass Issue Request System:

- Port users should register themselves once with the RFID system.
- The registered Port Users should pay through online in advance for the issuance of Harbour Entry Permit.
- Port User should pay and collect the required number of pre-printed HF cards from the Main Pass Section in advance.
- The registered Port Users can also obtain the Passes through the Web based RFID System. All the details provided will get linked automatically to the specific card.
- The readers will capture the date and time of entry/exit while showing the HF cards during the entry/Exit in the Port.
- The Port Users need not come often to the pass section for change of individual/renewal of passes.

C. Provision for online payment gateway:

- The Port users can make payment through Online for their required activities.
- Net banking, Card payment, POS Machines facilities etc. will be made available.

D. Incident Management System:

- Queries of Port Management report will be given as and when required.
- Web App should have Dashboard display of critical parameters with real-time updates.
- The software should have the provision of log record about the breakdowns and the action taken details. Contractor will implement the following Tracking System to manage:
 - i) Issues related to the HEP software operation i.e. Service-Call Report, indicating the time of break-down call, causes of break-down, the time of remedial action taken to restore the break-down.
 - ii) Request to modify HEP software
 - iii) Request for customized report

E. Centralized Data Pooling, Reports & Integration:

- The data generated transaction and the activities at each gates needs to be centrally pooled in a comprehensive database.
- The required Management Information System to the Ministry of Shipping, Chennai Port and IPA authorities need to be built by the Contractor.

F. Simplified Pass Approval System through Email, SMS, & Mobile alerts:

- a) The online Pass Issue request from the registered companies will be accessed by the Port Authority through Port intranet
- b) The request of the companies will have an option of alert by e-mail/SMS.
- c) As per the Port policy, the system can also be configured to set the policy framework to issue Pass.

G. Distributed Architecture

- a) The system will be highly distributed for the better performance and decentralized activities
- b) The high level of Gate Automation demands that, few gates will be installed with a Gate Server for the immediate data replication.
- c) The server at these gates will be connected to a Central Server in the Main Pass Section.
- d) The Central Server should be of high-end to stand online requests from large number of Port Users.
- e) The Central Servers of all Major Ports will be connected to the Master Server of IPA in future.

H. High Availability of Master Database

- a) The Master database with information of all the users, vehicles, policies, etc., will be highly available always in the Mirror Database.

- b) Master Database should be robust to support large scale online requests
- c) Replication of Master data will be available at the Gate servers & Main Pass Section

I. Archival & Retrieval System

- a) The transaction data generated through RFID Pass issue, gate authentication, image capture, vehicle identification, etc. will be available in the active database for a period of one month beyond its validity.
- b) The active archival system will roll over and hold the data to a period of 6+3 years.
- c) The archival data should be in multiple copies with adequate back ups
- d) Archival data should be actively searchable and available for retrieval at anytime

J. Backup

Port Access Control Software will have a real time fail over.

K. Integration APIs

- a) Multi-level APIs will be provided by PACS supplier for integration with other systems.
- b) Standard XML, Text & Web Services will be available to integrate with the system.
- c) Data format and communication protocol will be open for future integration.

L. Handheld Terminal (HHT) for Mobile Spot Checking as well as speedy movement at the gates

- a). CISF and Port Authorized personnel will be provided with HHT terminal which will be connected via Wi-Fi/GSM to Port Access Control Database
- b). Spot checks can be carried out by reading the RFID HEP's of users
- c). In case of congestion at the gates, HHT can double up as authentication device for faster movement of traffic

Note: The work mentioned is illustrative and not exhaustive. The bidder should carry out any other work related to the Project which is not included in the proposal, if required. The entire work shall be done on turnkey basis and it shall be operated round the clock. Any technical manpower required for the effective implementation of this project for the entire contract period should be provided by the Contractor.

5. BILL OF QUANTITY (BOQ)

A. PORT GATE MODULES

Gate Nos.	HF Readers	Gate Server	Nano PCs	32" Displays	ONLINE UPS with Battery	Port Switch (Manageable)	Poles	A/C & Partition
1	8	1	8	8	5 KVA -1 No.	24 Port -1 No.	-	1
2	3	-	2	2	1 KVA -1 No.	8 Port -1 No.	2	-
2A	1	1	1	1	2 KVA-1 No	8 Port -1 No.	1	1
3	2	-	1	1	1 KVA -1 No.	8 Port -1 No.	2	-
5	2	1	2	2	2 KVA-1 No	8 Port -1 No.	2	1
7 (Old)	2	-	1	1	1 KVA -1 No.	8 Port -1 No.	2	-
7	2	1	2	2	2 KVA-1 No	8 Port -1 No.	2	1
10	6	1	4	4	3 KVA-1 No.	16 Port -1 No.	4	1
Oil Dock	1	-	1	1	1 KVA-1 No.	8 Port -1 No.	1	-
Total	27	5	22	22	1,2 KVA - 4+3. 3, 5 KVA -1+1	8 Port-7 16, 24Port -1+1	16	5 sets*

- | | |
|-----------------------------------|-----------|
| 1). 17U Racks and Biometric Locks | : 5 Sets* |
| 2). 6U Racks | : 4 Nos. |
| 3). Signage Stickers | : 9 Nos. |

B. HAND HELD TERMINALS (HHT) : 4 Nos.

C. PASS SECTION MODULES

- | | |
|----------------------------|---------------|
| 1). HF Read/Write | : 2 Nos. |
| 2). Scanner | : 2 Nos |
| 3). Web Camera | : 2 Nos |
| 4). Computer system | : 2 Nos. |
| 5). Signage Sticker | : 1 No. |
| 6). HF Cards (Consumables) | : 30,000 Nos. |

D. CENTRAL SERVERS, 42U RACK, A.C, PARTITION& BIOMETRIC LOCK:- 1 Set*

- | | |
|---------------------------------------|---------|
| 1) Application Server | : 1 No. |
| 2) Data Base Server | : 1 No. |
| 3) Mirror Data Base Server | : 1 No. |
| 4) File/Report Server | : 1 No. |
| 5) Computer System installed with NMS | : 1 No. |
| 6) 16 Port Manageable Switch | : 1 No. |
| 7) 10 KVA ONLINE UPS | : 1 No. |

6. SCOPE OF WORK:

- A. The contractor should conduct a trial run of RFID for 15 days before the commencement of operation.
- B. The software shall be developed as per Chennai Port Trust requirements, integrated with ChPT's ERP/POMS/PCS as and when required. The installed system should be maintained by the contractor to generate and print Management Information System (MIS) reports from time to time as per the requirement of Port including the status of pending passes.
- C. The installed RFID System should have necessary Power Back up.
- D. Supply, Installation and commissioning of other hardware like Gate servers, Readers, LED Monitors, etc., will be installed at the respective gates.
- E. The essential works like Civil, Mechanical, Electrical, Communication, etc., should be provided by the contractor for the effective functioning of the RFID system.
- F. Chennai Port will provide space for installing servers and other hardware. It is the responsibility of the contractor to make partitions to fix the Air-Conditioners at the required places.
- G. Electrical fixtures, laying of LAN cables and wires required for inter-connecting all the equipments and other hardware should be provided by the contractor.
- H. Readers are to be installed at suitable height. The poles for readers should be designed and fixed as per the site condition.

- I. The hardware and software, including the application source code and all related licenses there-to shall be under the ownership of the Chennai Port. The contractor shall obtain/issue licenses or such other certification/documentation required for the purpose shall be in the name of Chennai Port Trust.
- J. The source code of the software should be handed over to the Chennai Port Trust within 7 days from the date of implementation of the project. Besides that, every month the contractor should submit to the port an updated source code along with the latest changes made during the month.
- K. The contractor should arrange for the data portability of available data from the existing pass issue software. The Current HEP software is on Oracle 9i database with Form 6.0 as front end.
- L. The cost of the hardware, software, allied equipments, spares, etc., shall be borne by the contractor. The contractor shall maintain and upkeep all the spares, hardware and software etc., provided under the scope of work as and when required for the uninterrupted round the clock operation at his cost.
- M. All the nodes/Computers and servers should be secured with reputed and proven anti-virus software including installation of updates from time to time. Also it is required that O.S. patches/updates should be installed from time to time.
- N. The contractor should maintain Access Control Software Documentation with version control to all customization with the integration details as well as to maintain user manuals updated from time to time. The required soft copies of all documentation must be shared with ChPT from time to time.

The Contractor should submit the following documents with the Trust:

- a) High Level Schedule in Gantt Chart format (within 7 days from the date of award of project)
 - b) Technical document describing architecture and design of the software (within 30 days from the date of award of project)
 - c) Functional Requirement Document (within 15 days from the date of approval of Technical document)
 - d) Acceptance Test Plan (within 30 days from the date of approval of Functional Requirement)
 - e) Test Result (Before Trial run)
 - f) Training Documents (Within 7 days from the date of Trial run)
- O. The contractor should ensure proper data synchronization automatically between the nodes, gate servers, central server on real-time basis as far as the access control data is concerned. In addition to that, the contractor should ensure that necessary replacement/up-gradation/integration of hardware and software, as may be required for the successful implementation of this project from time to time.
 - P. The contractor should conduct necessary training to the Port staff/officers as and when required for the effective operation of the RFID system.
 - a) At least once in a month a training to be given to the Port staffs.
 - b) To use the entire system, the CISF staffs should be given training on rotation

basis once in three months. To obtain online passes, the Port Users should be assisted properly.

- Q. The contractor is responsible for taking insurance to all manpower & the total system supplied and installed by contractor for risk coverage (accidental hazards, death & disability of person, material breakage due to negligence, theft, storm, fire or any other hazards) which may occur due to trespassing of vehicles and/or natural adverse climatic conditions and natural calamities such as War, Fire, Cyclone and other problems at shore.
- R. The contractor is required to obtain local Police Clearance Certificate for the employees deployed at ChPT for the entire contract period.
- S. The contractor should provide safety equipments to the staff as per Port guidelines.
- T. At the end of the contract, all the equipment, software, hardware, etc. coming under this contract should be handed over to the Port in good working condition.
- U. The contractor should undertake to provide support services for the RFID system initially for a period of 6 years with a provision to extend the work for a further period of 3 years as per the payment condition stipulated in the Project.
- V. The contractor should maintain confidentiality, proprietary & Business information/assets pertaining to Chennai Port Trust.
- W. Any unreadable HF Card (without any physical damage) must be replaced by the contractor at free of cost to the port.

7. WORKS NOT INCLUDED:

- Power Supply
- Existing OFC Connectivity.
- Space for equipments.
- Static IP
- Firewall & SSL Hosting.
- Internet connectivity.
- SMS Gateway.
- Online Payment Gateway.

8. APPLICATION SOFTWARE FOR HARBOUR ENTRY PERMIT:

Chennai Port proposes to replace the existing Pass system solution with the State of Art web based Pass generation module with the following features:

1. The Proposed system must be ISPS Compliant.
2. It should be web based and should have provision to create any number of Port Users through online.
3. Every Port User should have their own unique User name and Password.

4. Port User should upload relevant details like vehicle FC, Insurance, Driver/Cleaners name and the License details, along Vessel loading/unloading details, cargo details etc., as required by ChPT. The Port User can upload all relevant details from their office itself.
5. Once the data is uploaded, suitable counterfoil will be generated with unique ID.
6. The relevant details must be entered by the Port User. Based on that, if it is accepted the payment will be effected through online and the Pass will be issued.
7. All the Vehicles & Individuals are issued with HF Cards. During the time of entry/exit, the HF Cards have to be flashed at the HF READERS fixed at the gates so that the date and time will store in the database.
8. For collecting the fees, the software options like online gateway, debit/credit card provision will be made available.
9. The entire data thus generated should be stored in the database.
10. It should comply with all policy frameworks as desired by ChPT.
11. Mirroring of Master database in a separate server is mandatory.
12. The software should support Multiuser & multitasking to allow independent activities at different workstations.
13. Support authentication
14. Pass verification.
15. Pass validity check, Blacklisting and its management
16. Photo display/check
17. Verification of authorized/recommender signature.
18. Graphical user interface to show pull-down menus in a tree format.
19. Real time monitoring and tracking of entry/exit of personnel and vehicles to the Port.
20. License for the entire system should include for the future additions that are within the scope of this project.
21. System should have open architecture that allows importing and exporting of data and Interfacing with other systems.
22. Accountability of system components - audit trail.
23. System Administration of the application including Access controls for access to various modules.
24. Operator login and access shall be utilized by password protection.
25. **Interactive Reporting:** It should be equipped with suitable MIS for enabling Port Management to get business information as well as to monitor the system. The application software to be customized to include all business rules applicable for the issue of Passes in the Port.

26. **Information Transfer:** Transfer transaction information on daily, monthly and yearly basis to Port information system in mutually agreed format.
27. The system should allow printing of required information of the authorized port users after authentication.
28. Information & software interface with third parties as and when required.
29. Server reconciled with the payment collected.
30. Pass generation module with the provision for capturing Photo & other details should also be available at the Pass issuance centre.
31. The solution should be smart enough to verify the pre-sanctioned data already available.
32. The proposed system should hold at least last 10 years transactions in the database.

9. PORT ACCESS CONTROL SOFTWARE FEATURES:

Sl. No.	Module	Features
	RFID smartcard based Port Access Management system should be a comprehensive ISPS Compliant system.	ISPS Compliance certified by registered nodal certification agency is mandatory.
(A)	Port Officer Authorization Module	
a)		Provision to admin access into the complete system by a Port Authority
b)		Provision to Audit every pass issued
c)		Provision to restrict pass issue permission by Port Supervisor / Scrutinizer
d)		Provision to restrict number of pass per Company by a Port Authority
e)		Direct access to all software & database by authorized Port Authority
f)		Provision to limit the access to Port Supervisor/Scrutinizers at the Gates.
g)		Provision to scan activity of pass issue by each operator at any counter
h)		Provision to get summary report of all activities by operators on shift wise, daily, weekly, & monthly basis
i)		Provision to log all activities of logged in operators issuing the passes
(B)	Sponsoring Company Registration has	
a)		Provision to define company type
b)		Provision to register a company under one company type

c)		Provision to define category and its rules
d)		Provision to register one or more category under one Company
e)		Revision to define validity based on the license date, bank guarantee date and documents expiry date and categories validity period.
f)		Provision to define companies without any basic validity
g)		Provision for Pre-renewal
h)		Provision for renewal after expiry of registration
i)		Provision for extension of validity for Company-Category and Category on the basis of validity
		Provision to declare defaulter and or blacklist a category and or a company immediately or with future date.
j)		Provision to declare defaulter and or blacklist all the passes under the category and or Company automatically due to default/blacklist of Company or category
k)		Provision to restore the Company and or Category separately or together along with their passes
l)		Provision to cancel the Company/Company- Category as per Rules
m)		Provision to define Maximum Validity period for the type of pass of any Category in Category Master
n)		Provision for not allowing cancellation without cancelling all passes under it or if the company is defaulted or blacklisted
o)		Provision for forcible Cancellation of a Company
p)		Provision to cancel all the passes under it automatically
q)		Provision to declare quota for various types of passes and provision to increase/decrease quota permanently, daily or for a specific period.
r)		Provision to maintain the list of authorized signatories under company-category with Photo and Signature
s)		Provision to maintain the List of Director/Partners/Proprietors with their photo and signature
t)		Provision to define the Issuing Authority for different types of passes.
(C) Authenticated User Enrolment and Issuance of pass has		
a)		Provision to enroll User- identification details, photograph.
b)		Provision to attach Scanned documents.
c)		Provision to generate uniqueness for every User
d)		Provision to retrieve information based on User Identification details
e)		Provision to verify User credentials before issuing the Pass
f)		Provision to issue User pass till the Company-Category's Validity date, Document Validity date, Maximum validity period
g)		Provision to Generate, Print Pass on Smart Card, Paper.
h)		Provision to link RFID Smart card with Users credentials
i)		Provision to renew / issue duplicate passes
j)		Provision to blacklist or restore a user pass
k)		Provision to record IN / OUT timings of User / vehicle / Employee
l)		Provision to issue passes for different span of time like daily, weekly, Monthly, Quarterly, yearly
m)		Provision to issue passes to a group or to every member of group individually
n)		Provision to declare defaulter and or blacklist a user

o)		Provision to restore defaulter and or blacklisted user
p)		Provision to display Users Photograph on the LCD when moving in or out of the gate
q)		Provision to push data of defaulters/blacklisted user to Local gate servers.
r)		Thus controlling access of black listed persons
s)		Provision for various parameterized reports. User can generate their own MIS
t)		Maintaining unique data of Users from which pass is to be generated quickly
(D) Authenticated Vehicle Enrolment and issuance of Vehicle Pass features		
a)		Provision to enroll Vehicle
b)		Provision to Link Passengers with Vehicle
c)		Provision to generate Vehicle pass for different time period like Quarterly / yearly, Daily
d)		Provision to renew/issue Duplicate Vehicle pass
e)		Provision to change the Owner of the Vehicle
f)		Track the IN/OUT timings of Vehicle at gate through RFID Card
g)		Maintaining unique data of Vehicle from which pass is to be generated quickly
(E) Money Collection and Remittance features		
a)		Provision to Define various pass
b)		Provision to enter tariff for each definition of Pass.
c)		Provision to Change Tariff for each Definition of Pass and should be applicable for a specific period
d)		Provision to Collect cash as per the rules defined
e)		Provision for remittances made
f)		Provision to collect deposit in advance against each Company
g)		Provision to collect money against each pass as per the rules defined by making necessary withdrawal entry (Credit/Debit)
h)		Provision for online payment to Port Account Directly
(F) Blacklisting & Policy Enforcement Module		
a)		Provision to blacklist user, vehicle, company
b)		Provision to auto-block pass issue to blacklisted entities
c)		Provision to raise alert for blacklisted related requests
d)		Provision to report suspicious or anomalous activities with severity levels
e)		Provision to create rules defining Port Gate Entry Policy
f)		Provision to enforce Gate Entry Policy such entry restricted from a specific gates, etc.
g)		Provision of rules to generate alerts by email, SMS, or Phone Call
(G) User Module Features:		
a)		Hierarchy of the users maintained
b)		Levels of the users and rights given to the levels could be changed through system
c)		Maker Checker facility for the user creation
d)		Log of creation of User, User Validity, password Validity and Password Policy maintained
e)		Copy/Paste not allowed in the login/Password Fields

f)		Validation in such a way that no compromise by SQL Injection Techniques Password encrypted
g)		Last login Date/time stored in the system and displayed on the screen to the user
h)		Enforcement of the initial default password and forcing the user to change password after certain No.of days parameterized.
i)		After certain no. of attempts the user gets locked and the no. of attempts parameterized
j)		Disabling the user automatically after certain period parameterized if the login is not at all used
k)		Facility to disable the user manually
l)		History of login details to the user of their own login & of all users for administrator / Super User login
(H)	RFID Card Management Module	
a)		Advance enrolment of the port sponsor companies, users, vehicles, etc.
b)		Management of Temporary users
c)		Remote disabling of cards
d)		Alerting on expired cards usage attempts to CISF & keeping a trial of such incidents in the server.
(I)	Comprehensive MIS Reports & Integration Module	
a)		Provision for Dashboard to view the current status of traffic at the Port
b)		Category based reporting of traffic inside as well as at the Gates
c)		Report on Vehicles associated by Drivers & Cleaners
d)		Report of pass issued in by day, week, month, year, as well as by gates.
e)		Graphical view of all the reports summary
f)		Detailed report pass issue activities by Gate, by Period, by Operator
g)		Summarized report of pass issue activities by Gate, by Period, by Operator
h)		Reports providing anomalous activities at the gate
i)		Report providing time spent by each and every man & Vehicle
j)		Report detailing overstay by individuals & vehicles
k)		Report on pass payment collections and reconciliation
l)		Provision to transfer data to Port servers on real-time or scheduled basis
(J)	Gate Interface Module	
		Display Unit Controller
		Handheld Terminal for Mobile Spot Checking as well as speedy movement at the gates
(K)	Control Room & 24/7 Monitoring	
a)		Summarized dashboard
b)		Real-time Data updates and Visuals
c)		Anomaly & Policy Break Reporting
(L)	Backup, Archival & Retrieval Management	
a)		Backup server for record keeping
b)		Regular synchronization with Main server
c)		Historical data keeping for audit trail

d)		Fallback server
e)		Doubles up as load balancing server
f)		Distributed Architecture
g)		High Availability Master Database
h)		Archival & Retrieval System
i)		Backup
(M)	Integration APIs	
		comprehensive APIs to connect to various existing & future integrations
		XML & Web service based open interfaces.

The bidder should study in detail about the system and know the requirement of the Port before quoting. Any new requirement in the software, which is not mentioned above is also to be carried out.

10. PERFORMANCE BENCHMARKS:

The contractor is given flexibility to design the most cost-effective solution without compromising the quality of service to be rendered to the port. The contractor should meet the following performance benchmarks:

1. Validation of the HF Cards with the details in the Port database should not take more than 2 seconds.
2. The contractor should ensure about the functioning of readers based on the port conditions viz., Dusty, Metallic, Saline, etc.
3. The volume of traffic handled is not uniform. The bidder should study the flow of traffic and ensure to avoid the traffic congestion.
4. The contractor should make provision in the software to send the data via any wireless mode viz., 4G/GPRS etc. in the event of OFC is damaged.
5. All the gates should be provided with LED display unit for displaying details like Registration Number of the vehicle, entry / exit of the Drivers/Cleaners photos and the Display will not change until the next Vehicle/Individual enter/exit.

Performance Parameters:

Sl. No	Key performance Indicator (KPI)	Minimum Guaranteed Performance
01	Pass Generation Time (PGT) after approval.	Less than 60 Seconds
02	Average no. of passes issued per minute at any counter	More than 2 Nos.
03	Pass Verification Time (PVT)	Less than 2 seconds
04	Annual System Down Time	< 1% (Other than maintenance window)
05	System availability	> 99% (Other than maintenance window)
06	Report Requests	
a.	Average Turn Around Time (TAT)	Within 5 minutes of the report request

	for real time Report Requests	
07	Change Requests (CR)	15 CRs/Annum

11. PENALTY CLAUSE:

System to lodge the complaints and calculate the response time must be provided by the vendor at no additional cost to the Port.

P1 (High Priority) - To be rectified < 30 minutes.

- a). Critical Software/Hardware that leads to break down of the functioning of the system.
- b). Breakdown of critical modules of the system that leads to constraints in the functioning of the HEP system.

P2 (Medium Priority) - To be rectified < 60 minutes.

- a). Any Gate issue like Reader, Computer systems, LED displays pertaining to a lane etc., that leads to operational difficulties at the gates.
- b). Poor Pass Issuance/Reading efficiency that leads to congestion along the lanes in the gates.

P3 (Less Priority) - To be rectified < 120 minutes.

Issue that are not limited to difficulties in the functioning of a lane, or a single pass issuance counter etc...

Note: Non-compliance of any five P1/P2/P3 issues in a month in respect of response time or resolution amounts to breach of SLA and the same would attract corresponding deduction in the monthly payments to be made to the vendor

12. TECHNICAL SPECIFICATIONS OF HARDWARE:

The makes indicated under the specifications of certain items are for indicative purposes only. In case of other make, the proposed items shall meet the bid specifications or better, for which, the Contractor should provide adequate supporting documents for the proposed item like performance certificate obtained from any PSU/Central Govt. Organization.

12.1) RFID HF READER:

Qty: 27 Nos.

Sl. No	Parameter	Particulars
1.	Type	MIFARE Contactless smart card reader confirming to ISO 14443-A Type 1,2 & 3
2.	Effective Read Range	10 mm to 40 mm
3.	Connectivity	TCP/IP.
4.	Display	Red and Green LED Indicator or any other visual display to indicate successful reading or otherwise.

5.	Protection	IP 65 Protection and above
6.	Features	- Network reader should give full distributed processing of all access control functions - Should provide offline transactions when not in communication with the software
7.	Required Makes	Honeywell/Bosch/HID

12.2). HHT Specifications

Qty: 4 Nos.

Sl. No	Parameter	Particulars
1	Display	3.5 Inch Touch Screen TFT Color LCD with 320x240 pixels;
2	Processor	ARM9 32 bit Core CPU @ 400MHz
3	Memory	RAM 256 MB (DDR); Flash 256 MB / 512MB
4	Operating System	LINUX OS (2.6)
5	Keypad	QWERTY Keypad; Alpha Numeric (A-Z;0-9); Function keys (F1-F10); Special Keys (Shift, Back, Cancel, Enter,Space,Fn)
6	Interfaces/Connectors	a)RS-232 (RJ45 Connector for console / Serial port) b)One USB Host c) One USB Device d) Micro SD (up to 16GB) e) 2 SAM Slots f) 2 SIM Slots
7	Speaker	1W Speaker Supporting MP3 and WAV file
8	Finger Print Scanner	High Performance Fingerprint Scanner (500dpi), MINEX & NIST Certification for FPS;
9	Magnetic Swipe Card Reader	3 Track Bi-Directional
10	Smart Card Reader	ISO7816 Contact Smart Card Reader Dual Smart Card Reader
11	Contact less reader	ISO14443, NFC Mifare
12	Communication Modules	a) LAN 10/100 BASE-T (Standard RJ45 connection) b) GSM/GPRS (Quad/Dual band) (SMA female antenna connection) c) Wi-Fi with b/g/n supports
13	GPS	Inbuilt GPS Module
14	Camera	Inbuilt Camera (5 Mega Pixel)
15	Bluetooth	Bluetooth Enabled
16	Power Adaptor	AC input 100 - 240V, 50/60Hz DC output 9V, 2.2A
17	Battery	Li-Polymer 7.4V/2600mAh
18	Enclosure	ABS+PC
19	Temperature	Operating 0°C to 55°C
20	Humidity	95% RH non condensing
21	Immunity	IEC 61000-4-2, Level 3 IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-9, all Level 4
22	Safety	CE Certified
23	Dimensions in mm	245 x 96 x 85 (L x W x H)

24	Weight	750 gms.
25	Make	Visiontek/Geodesic/Analogics

- Note: i). Only the relevant technical specifications for the presently included scope towards verification of RFID HEP's are applicable for the HHT in this Contract.
- ii). Providing of GSM/GPRS facility will be under the scope of the Bidder for the entire contract period.

12.3. Gate Server - 5 Nos.

Sl. No.	Parameter	Particulars
1	Description	Single socket 6 core 1U
2	Processor	Intel Xeon processor E5-2620v2, 2.1 GHz, 15MB Cache (per processor), Intel Hyper-threading technology.
3	Memory	32GB * 2 = 64 GB Memory. Should be redundant.
4	Drive bays	3* 2.5" SAS Drive bay with complete Redundancy
5	Hard drives	2*2 TB 10K RPM SAS Disks. Should be redundant. RAID 1 compatible.
6	Optical Drive	DVD-RW
7	Expansion slots	Built in 2* PCI-express – Should be redundant
8	Graphics	One VGA port
9	Network	Usable 2 X 10/100/1000 Ethernet ports. Both ports should be redundant
10	I/O Ports & Connectors	Pluggable. 1* Active service network modem, 1*10/100 Management port 4 USB port, 2* 9 Pin serial port
11	Input device	USB or PS2 Keyboard and mouse
12	Power Supply	Redundant power supply 2 Nos.
13	Power Cord	3 Pin Power cord to be supplied
14	Operating System	Microsoft windows 2012 STD R2 or latest (Should be able to install in the same machine quoted). Pre-installed from OEM
15	Software	<ul style="list-style-type: none"> System management software to monitor system health at local console and over network. Fault detection and isolation. Software feature should include capability of call home and order spares online The software should offer proactive availability management.
16	Support Services	<ul style="list-style-type: none"> Direct problem call logging with Manufacturer Less than 4 business hours 8/5, Hardware support response directly from manufacturer Advance part exchange 24/7 proactive ASN system monitoring support services directly from manufacturer
17	Mandatory server solution	<ul style="list-style-type: none"> Full data redundancy to be provided using proven technology (for both disk data and memory data)

		<ul style="list-style-type: none"> The server should have hardened drivers for OS and protect the system from transient errors. The solution offered should have Zero fail over time
		<ul style="list-style-type: none"> The server should have the capability to remote network service and should be quoted with necessary modem
		<ul style="list-style-type: none"> Should be able to install Microsoft windows, Linux, VM Ware on the same machine quoted/supplied.
		<ul style="list-style-type: none"> Server should mandatorily be able to Connect to all leading external storage Seamlessly like IBM, HP, EMC, Netapp, Hitachi
18	General	<ul style="list-style-type: none"> Scope includes supply & installation
		<ul style="list-style-type: none"> Give compliance statement for the above specifications.
		<ul style="list-style-type: none"> Contractor should attach the OEM technical Literature of the proposed model
		<ul style="list-style-type: none"> The bid should explain in detail how the OEM's proposed system achieves uptime and how it prevents down time of the server in-spite of a component failure
		<ul style="list-style-type: none"> The bid should explain in detail how the features mentioned above are made available in the proposed system
		<ul style="list-style-type: none"> Contractor should furnish all necessary part Codes including service components from OEM's (Part codes should be from OEM)
19	Make	IBM /Dell/Stratus /HP/ Lenovo

12.4. Nano PC:

Qty – 22 Nos.

Sl. No.	Parameter	Particulars
1	CPU	Intel® Celeron® Processor N3000 up to 2.08GHz
2	Memory	1x SO-DIMM DDR3L 1.35V slot 1066/1600 MHz Max. 8GB
3	LAN	Gigabit LAN (Realtek RTL8111H)
4	Audio	Realtek ALC255
5	Graphics	Intel® HD Graphics
6	HDMI Resolution (Max.)	3840x2160 @ 30 Hz
7	VGA Resolution (Max.)	1920 x 1200 @60 Hz
8	Expansion Slots	1 x PCIe M.2 NGFF 2230 A-E key slot occupied by the WiFi+BT card
9	Front I/O	2 x USB 3.0 1 x Micro SD card slot
10	Rear I/O	1 x HDMI 2 x USB 3.0 1 x RJ45

		1 x DC-In
		1 x Kensington lock slot
11	Power Supply	Input: AC 100-240V
		Output: DC 19V
		2.1A
12	Side I/O	1 x VGA D-Sub
		1 x Audio-out / Mic-In
13	Storage	Supports 2.5" thickness 7.0/9.5mm Hard Drives (1 x 6Gbps SATA3)
14	VESA	Bracket included
		Supports 75 x 75 and 100 x 100 mm
15	Support OS	WIN7 64bit, WIN8.1 64bit, WIN10 64bit
		Ubuntu
		Linux
16	Environment	System Environment Operating Temperature: 0°C to +35°C
		System Storage Temperature: -20°C to +60°C
17	Make	Dell, HP, Lenovo, Gigabyte

12.5. LED DISPLAY (32") with Weather proof housing:

Qty – 22

Sl. No.	Parameter	Particulars
1	Type	LED
2	Display Resolution	1366 x 768
3	Connectivity	1 x HDMI & 1 x USB
4	Screen Size	80 cm (32")
5	Refresh Rate	50Hz-100Hz
6	Required Makes	Sony/Panasonic/ SAMSUNG/LG

Note: All the Outdoor Display units should be housed in a suitable weather resistance enclosure, suitable for ceiling/wall mounting.

12.6. ON LINE UN-INTERRUPTED POWER SUPPLY:

- a) 1 KVA: 4 Nos.
- b) 2 KVA: 3 Nos.
- c) 3 KVA: 1 No.
- d) 5 KVA: 1 No.
- e) 10 KVA: 1 No.

Sl. No.	Parameter	Particulars
1	Design	1/2/3/5/10 KVA Online UPS
2	Full Load Power Supply Time	Min. 4 Hrs.(10 KVA ONLINE UPS must be with at least 8 hrs. backup)
3	Operating at input voltage	210/380Volts ±10% and 50 Hz ±2.5 Hz.

4	During intermittent interruption cycle	Continuously supplying power
5	Batteries Status	Must indicate Batteries status in a LED display.
6	Required Makes	APC/Numeric.

12.7. 8/16/24 PORT GIGA BYTE MANAGEABLE SWITCHES:

- 1) 8 Port Manageable Switch: 7 Nos.
- 2) 16 Port Manageable Switch: 2 Nos.
- 3) 24 Port Manageable Switch: 1 No.

Sl. No.	Parameter	Description
1	Ports	8/16/ 24 RJ-45 connectors for 10 BASE-T, 100BASE-TX, and 1000 BASE-T with 2 shared Small Form-Factor Pluggable (SFP) slots
2	Cabling type	Unshielded twisted pair (UTP) Category 6 or better.
		10 BASE-T/100BASE-TX; UTP Category 6 Ethernet or better.
3	Power supply	230 V AC
4	Required Make	CISCO/HP/ALLIED TELESYS /D-Link.

12.8. POLES (MOUNTING STRUCTURES FOR READERS): Qty - 16 Nos.

The scope of work includes Supply and Installation of Mounting Structures made of GI pipes with suitable diameter and height for mounting the Readers & monitors. All the Mounting structures shall be anodized to withstand the hostile port environment. The structures shall be grouted at site as per the instruction of the Trust Engineer.

12.9. A/C & PARTITION: 6 Sets.

- a) 1 Ton Air-Conditioners 6 Nos. at 6 locations (Main Server – 1 No. & Gate Servers - 5 Nos.).
- b) All the A/C should have Voltage Stabilizers.
- c) Partition till roof height at these 6 locations should be done with aluminum and glass materials.

12.10. HF RFID PERSONALIZATION READER CUM WRITER: Qty - 2 Nos.

Must be compatible to the HF Reader as mentioned in Sl.No. 12.1

12.11 SCANNER : Qty - 2 Nos.

Sl. No.	Parameter	Particulars
1	Scanner Type	Flatbed
2	Scan resolution	Optical, Up to 1200 dpi (colour & mono)
3	Scan size	216 x 297 mm, maximum
4	Media types	Paper (inkjet, photo), Cards.
5	Required Makes	Samsung/HP/Canon/Epson

12.12. WEB CAMERA:**Qty – 2 Nos.**

Sl.No	Parameter	Particulars
1.	Type	Single-lens reflex camera
2.	Effective angle of view	Approx. 1.5 x lens focal length
3.	Effective pixels	12 Mega Pixel and above
4.	Required Makes	I Ball/ Logitech/ Creative

12.13. COMPUTER SYSTEM: Qty - 3 Nos.: {Pass Sec. - 2 Nos. & Domain Server (NMS) -1 No}.

Each unit shall be supplied along with necessary RFID Software and connected accessories.

1	Processor	Intel Core i5-3500 or Higher, 3.3 GHz, 6 MB L3 Cache
2	Graphics	Integrated HD Graphics
3	Memory	8 GB 1333 MHz DDR4 RAM with 16 GB Expandability.
4	Hard Disk Drive	1 TB 7200 rpm Serial ATA HDD.
5	Monitor	47 cm (18.5 inch) TFT/LED Digital Color Monitor.
6	Keyboard	104 keys or better
7	Mouse	Optical Scroll Mouse
8	Ports	6 USB Ports (with at least 2 in front, minimum 2 USB 3.0), 1 Serial audio port for microphone and headphone in front.
9	Networking Facility	10/100/1000 on board integrated Network Port
10	Operating System	Windows 10 Professional (64 bit) preloaded with Certificate of Authenticity or higher
11	Required Makes	Dell/HP/Lenovo/IBM

12.14. CENTRALISED RFID SERVER SYSTEM**12.14.1. APPLICATION SERVER: Qty - 1 No. & FILE/REPORT SERVER: Qty - 1 No.**

Sl. No.	Parameter	Particulars
1	Description	High availability server solution with built-in redundant modular components Single socket 6 core or higher
2	Processor	Intel Xeon processor E5-2620v2, 2.1 GHz, 15MB Cache (per processor), Intel Hyper-threading technology.
3	Memory	64GB * 2 = 128 GB Memory. Should be redundant.
4	Drive bays	8* 2.5" SAS Drive bay with complete Redundancy
5	Hard drives	2*1.2 TB 10KRPM SAS Disks. Should be redundant. RAID 1 Mirror compatibility.
6	Optical Drive	DVD-RW
7	Expansion slots	Built in 2* PCI-express – Should be redundant
8	Graphics	One VGA port

9	Network	Usable 2 X 10/100/1000 Ethernet ports. Both ports should be redundant
10	I/O Ports & Connectors	Pluggable. 1* Active service network modem, 1*10/100 Management port 4 USB port, 2* 9 Pin serial port
11	Input device	USB or PS2 Keyboard and mouse
12	Power Supply	Redundant power supply 2 Nos.
13	Power Cord	3 Pin Power cord to be supplied
14	Operating System	Microsoft windows 2012 STD R2 or latest (Should be able to install in the same machine quoted). Pre-installed from OEM
15	Software	<ul style="list-style-type: none"> System management software to monitor system health at local console and over network. Fault detection and isolation. Software feature should include capability of call home and order spares online The software should offer proactive availability management.
16	Support Services	<ul style="list-style-type: none"> Direct problem call logging with Manufacturer Less than 4 business hours 8/5, Hardware support response directly from manufacturer Advance part exchange 24/7 proactive ASN system monitoring support services directly from manufacturer
17	Mandatory server solution	<ul style="list-style-type: none"> Full data redundancy to be provided using proven technology (for both disk data and memory data) The server should have hardened drivers for OS and protect the system from transient errors. The solution offered should have Zero fail over time The server should have the capability to remote network service and should be quoted with necessary modem Should be able to install Microsoft windows, Linux, VM Ware on the same machine quoted/supplied. Server should mandatorily be able to Connect to all leading external storage Seamlessly like IBM, HP, EMC, Netapp, Hitachi
18	General	<ul style="list-style-type: none"> Scope includes supply & installation Give compliance statement for the above specifications. Contractor should attach the OEM technical Literature of the proposed model The bid should explain in detail how the OEM's proposed system achieves uptime and how it prevents down time of the server In spite of a component failure The bid should explain in detail how the features mentioned above are made available in the proposed system

		<ul style="list-style-type: none"> Contractor should furnish all necessary part Codes including service components from OEM's (Part codes should be from OEM)
19	Make	IBM /Dell/Stratus /HP/ Lenovo

12.14.2. Database Server - 1 No. & Mirror Database Server: Qty - 1No.

Sl. No.	Parameter	Particulars
1	Description	High availability server solution with built-in redundant modular components Single socket 6 core or higher
2	Processor	Intel Xeon processor E5-2620v2, 2.1 GHz, 15MB Cache (per processor), Intel Hyper-threading technology.
3	Memory	64GB * 2 = 128 GB Memory. Should be redundant.
4	Drive bays	8* 2.5" SAS Drive bay with complete Redundancy
5	Hard drives	5*2 TB 10K RPM SAS Disks. Should be redundant. RAID 5 for 4 Disks & 1 hot spare.
6	Optical Drive	DVD-RW
7	Expansion slots	Built in 2* PCI-express – Should be redundant
8	Graphics	One VGA port
9	Network	Usable 2 X 10/100/1000 Ethernet ports. Both ports should be redundant
10	I/O Ports & Connectors	Pluggable. 1* Active service network modem, 1*10/100 Management port 4 USB port, 2* 9 Pin serial port
11	Input device	USB or PS2 Keyboard and mouse
12	Power Supply	Redundant power supply 2 Nos.
13	Power Cord	3 Pin Power cord to be supplied
14	Operating System	Microsoft windows 2012 STD R2 or latest (Should be able to install in the same machine quoted). Pre-installed from OEM
15	Software	<ul style="list-style-type: none"> System management software to monitor system health at local console and over network. Fault detection and isolation. Software feature should include capability of call home and order spares online The software should offer proactive availability management.
16	Support Services	<ul style="list-style-type: none"> Direct problem call logging with Manufacturer Less than 4 business hours 8/5, Hardware support response directly from manufacturer Advance part exchange 24x7 proactive ASN system monitoring support services directly from manufacturer
17	Mandatory server solution	<ul style="list-style-type: none"> Full data redundancy to be provided using proven technology (for both disk data and memory data) The server should have hardened drivers for OS and protect the system from transient errors. The solution offered should have Zero fail over time

		<ul style="list-style-type: none"> The server should have the capability to remote network service and should be quoted with necessary modem
		<ul style="list-style-type: none"> Should be able to install Microsoft windows, Linux, VM Ware on the same machine quoted/supplied.
		<ul style="list-style-type: none"> Server should mandatorily be able to Connect to all leading external storage Seamlessly like IBM, HP, EMC, Netapp, Hitachi
18	General	<ul style="list-style-type: none"> Scope includes supply & installation
		<ul style="list-style-type: none"> Give compliance statement for the above specifications.
		<ul style="list-style-type: none"> Contractor should attach the OEM technical Literature of the proposed model
		<ul style="list-style-type: none"> The bid should explain in detail how the OEM's proposed system achieves uptime and how it prevents down time of the server In spite of a component failure
		<ul style="list-style-type: none"> The bid should explain in detail how the features mentioned above are made available in the proposed system
		<ul style="list-style-type: none"> Contractor should furnish all necessary part Codes including service components from OEM's (Part codes should be from OEM)
19	Make	IBM /Dell/Stratus /HP/ Lenovo

12.15. Racks for Switches and Servers:

- a) 6U Racks for Switches : 4 Nos.
b) 17U Rack for Gate Servers : 5 Nos.
c) 42U Rack for Main Servers : 1 No.

Sl. No.	Parameter	Description
1	Basic Frame	Steel
2	Construction	Welded
3	Top & Bottom Cover	Welded to Frame with Cable entry exit cut outs
4	Front Door	Lockable Toughened Glass Door
5	Rear Door	Formed Steel Door
6	19" Mounting Angle	Formed Steel
7	Std. Equipment Mounting	DIN Std. 10 mm Sq. Slots.
8	Standard Finish	Powder coated
9	Standard Colour	Grey & Off White OR Black
10	Standard Mounting	Caster wheels (2 with Brake & 2 without Brake)
11	Rack Standard	Conforms to DIN 41494 or equivalent standard
12	Static Load	150kg

6U Rack: - 6U/400 Rack with Glass Door, Wall mountable.

17U Rack: - 17U/600, Floor standing with wheel

42U Rack:

F-6001000 42U Rack Frame/600X1000/Steel/NRS1

Casters Set of 4/TP2

Levelers

2-600 Glass Door/600/42U/NRS1

2-600 Metal Door/600/42U/NRS1

2-1000-V Side Panels/800/42U/Vented/NRS1

1Ph, 230V, 32A, Zero U standard Vertical rack mount power distribution unit with 12 X Indian Round Pin 5/15A, (Inlet Plug Not Installed, Recommended IEC30932A 2P +E), 16A MCB X 2 Circuits- PDU Rating 7.3KVA

Vertical Cable Organizer/38U/Loop

Shelf/1000

Shelf/Key Board/19"Rty/1000

Mounting Hardware-CR (Pack of 20)

Fan Module/4Fan/Tower Mount/360CFM

19" Industrial LCD KVM Console, 19" LCD Panel, keyboard, touchpad, 1U rack mount form factor.

8-port88 Combo KVM, 1-user, 8*6ft cables/1U

REQUIRED MAKE: VALRACK, NETRACK

12.16. Biometric Locks for Server Rooms: Qty- 6Nos.**(1 Main Server Room & 5 Gate Server Rooms)**

Sl. No.	Parameter	Description
1	TYPE	Lock with handle and Biometric sensor
2	USER CAPACITY	50
3	BATTERY	Inbuilt
4	LOCKING	Locking with latch and Dead Bolt
5	OVERRIDE	Key opening
6	DATA	Log records can be downloaded via USB or any other downloader
7	GROUPS	Different users can be put into different time zones so that he can open within his time zone only
8	MAKE	Godrej, KABA, Probruck, Yale, Adel

12.17. Signage Retro Reflective Stickers with instructions for marking RFID System:**Qty. 10 Nos.****12.18. HF CARD:****Qty. 30,000 Nos.**

HF Cards should be supplied with different colours for vehicle, individual, foreigner and essential, in the pre-printed format in the front side with Port Logo and other terms and conditions of the Port on the back side.

Sl.No.	Description
1	The contactless smart card shall function as an access control card, used with
	access readers to gain entry to controlled areas and to hold identification
	Information specific to the use.

2	The contactless smart card shall be a passive device, with an operating frequency of 13.56 MHz, and shall meet the contactless cards (14443 Type 1, 2&3 A) Generic command set should be based on ISO/IEC 7816-4.
3	The card shall be available as a single RFID solution designed for interoperability with 13.56 MHz readers
4	The card shall offer a memory size of 1K-Bytes on MIFARE.
5	It should be at least 820 GSM thick so that it can take normal wear and Tear
6	Contactless smart card shall meet the following environmental specifications:
	a. Operating temperature: -40oF to 158oF (-40oC to 70oC).
	b. Operating humidity: 5% to 95% relative humidity non-condensing.
7	The warranty of contactless smart cards shall be for 6 year against defects on material.
8	All cryptographic algorithms, modes of operation, protocols and mechanisms used by the card shall be based on MIFARE standards
9	The smart card shall support ISO/IEC 14443 specifications parts 1-4(with communication type A) and exposes a random UID. It can be programmed with different card data formats (with variable length) including standards-based and secure data object credentials.
10	The card shall be loaded with an application that leverages existing standards for maximum interoperability and heightened protection against attacks.
11	Programmable Platform: The card shall use a microprocessor to support post-issuance update in the field and support retrieval of protected data formats. The card shall be ready to support future applications.
12	All contactless communications shall be secured by a secure messaging established after mutual authentication between the card and the off-card application. Each secure session relies on diversified AES keys that are setup at the start of each session. Keys are 64 bit.
13	The card shall support multiple applications as part of the available memory. Each application can be loaded with different data set and memory size.
14	The card shall support adding or removing applications after the card has been issued, with full support for data integrity and consistency and confidentiality of any secrets such as authentication keys contained in the applications. The application management commands shall be based on ISO/IEC 7816-13:2007.
15	The card shall include multi-application support for on-card database application with a firewalled architecture (to ensure data separation between applications). To increase return on investment, the default application can be updated to support other services without card replacement.
16	The card memory shall guarantee a data retention of 10 years. Card data integrity and consistency shall be preserved at all time during the life span of the card.
17	Make: HID/Bosch/Coesonant/Schneider Electric/Siemens

13. INSTALLATION & COMMISSIONING:

- a) Required tools, tackles, materials, etc., for commissioning of the system should be arranged by the Contractor from their own cost.
- b) The System should function in saline atmosphere with adequate protection from dust and water.

14. COMPLETION PERIOD:

The entire system should be completed within 120 days from the date of handing over of sites.

Note: The Contractor has to start the work at the handed over Site/Sites by installing and commissioning all the equipments and complete the entire work within 120 days from the date of handing over. The cumulative time taken for starting and completing the work at all the sites within 120 days. If 120 days exceeds L.D. Clause will attract.

15. SCOPE OF WORK DURING THE MAINTENANCE PERIOD:

- a). During the entire contract period, the contractor should post necessary Technical Support Staff as mentioned below:

Minimum deployment as required for the equipment and round the clock uninterrupted functioning of the system. Further the contractor must make arrangement for software developers to make modifications and up gradation of the software and server health check from time to time.

- a) The scope of work for the technical personnel posted by the contractor at the sites also includes giving necessary onsite training to the Trust personnel as and when required by the Trust.
- b) The contractor should keep necessary spares in the specified locations for rectifying the faults at their cost.
- c) The Contractor should always keep the system 100 % operating condition round the clock irrespective of breakdown by keeping necessary spare units and standby systems.
- d) The contractor should arrange their own transport for transporting of manpower to various locations concerned for the work.
- e) Only Authorized persons should enter the server rooms. Before entering the server rooms, he/she must enter details in the register kept at that location. The data of the register must match with the bio-metric data down loaded from the door locks which are to be installed by the contractor at every Server Room.
- f) The Technical personnel of the Contractor shall be stationed at ChPT. The contractor should furnish the complete details including photos of the staff posted along with their ESI and EPF details.
- g) The Contractor should submit a Service-Call Report to be sent to the Trust immediately following every call out, indicating the time of call out visit, cause, remedial action taken and the time that the service was restored.
- h) It is the responsibility of the contractor to provide a contact number which can be reached round the clock to lodge complaints by the Port.
- i) A total System failure is defined as a situation where the System is not available for operation. System unavailability caused by scheduled preventive maintenance shall not be regarded as failure.

16. PAYMENT TERMS:

The Project will be considered as accepted by the Chennai Port only on completion of the below mentioned activities:

1. Submission of necessary Security Deposits as per tender condition.
2. Signing of Contract / Agreement as per the tender condition.
3. Submission of various Registers/Documents like Purchase order copy, Transport/ Courier received challans, Gate Pass for materials received, Damages to Chennai Port material details, Engagement of Manpower, etc. All the Registers must be counter signed by the Trust's Engineer from time to time.
4. Submission of source code of the software.
5. Software licenses in the name of Chennai Port, which includes Source code, Operating system, Database, Application software, etc.
6. A bond should be given by the contractor stating that the software is developed by the contractor/company itself and not purchased or outsourced from any other contractor/company.
7. Submission of Technical Manuals as prescribed in the Tender Specification.
8. Submission of deliverable documents like System Diagram, User Manual and Operation Manual
9. Successful completion of Bench Mark Test, Trial run, etc.
10. Generation of desired Reports as per the tender condition
11. Local Police Clearance Certificate of Maintenance Team.
12. List of hardware maintained at the site.
13. Training to the Port staffs and various training to other stakeholders as per the tender condition.
14. Acceptance will be issued by the Trust's Engineer based on the receipt of certification of approval for Chennai Port RFID System issued by the registered nodal certification agency for ISPS Compliance Certification as prescribed by Indian Ports Association.

Payment will be released every month on submission of the following documents.

1. Acceptance Certificate issued by the Trust's Engineer.
2. Valid/Renewed ISPS Compliance Certification should be available throughout the contract period to release the payment every month including the extended period of 3 years.
3. Updated change request register counter signed by the concerned officials of the RFID Project Committee.
4. Maintenance register counter signed by the concerned officials of the RFID Project Committee.
5. Payment proof for PF, ESIC and any other statutory due to the staff engaged at Chennai Port for the previous month.
6. Updated source code in a CD.
7. Staff training completion certificate of the respective month from the Traffic Department.
8. CISF staff quarterly training completion certificate issued by the authority concerned.
9. Monthly work progress report from CISF
10. Monthly work progress report from officials of the RFID Project Committee.
11. Submission of Invoice, Bill in the Trust format along with all supporting documents.

The payment details are as follows:

i). Supply, installation and Commissioning charges (Schedule A1):

The equated monthly payment will be made on grand total as applicable for the period of 6 years. However, the contractor is liable to supply extra equipments/materials on the request of Chennai Port, for which the total payment will be made within 30 days from the date of acceptance of the equipments/materials by the Trust's Engineer. The price will remain same for the entire 6 years contract period and any extension period thereafter.

ii). CAMC and onsite Technical support staff for up gradation, fault rectification, modification in the software for 6 years by placing suitable technical manpower for the period of 6 years (Schedule A2):

The equated monthly payment will be made on grand total as applicable for a period of 6 years.

iii). Supply of Consumable RFID HF Cards (Schedule A3):

The total payment will be made within 30 days from the date of acceptance of the materials by the Trust's Engineer as per the actual quantity supplied. The price will remain same for the entire 6 years contract period and any extension period thereafter.

iv). In case of extension of contract, payment towards Schedule "A2" will be paid:

a) 7th year - The equated monthly payment will be 10% more than the 6th year monthly payment made.

b) 8th year - The equated monthly payment will be 10% more than the 7th year monthly payment made.

c) 9th year - The equated monthly payment will be 10% more than the 8th year monthly payment made.

17. RFID PROJECT COMMITTEE SHALL HAVE FULL POWER AND AUTHORITY

The entire RFID System installed will be handed over to the officials of the RFID Project Committee who have the following rights: -

- a) To inspect the work at any time.
- b) To order for any variation, alteration and modification of the work and for the extra work.
- c) To issue Certificates.
- d) To settle the claims and disputes of the contractor.
- e) To authenticate the bonafides of persons and Vehicles for issue of passes and to supervise the work.
- f) To Test and examine any workmanship of the employee in connection with the work.
- g) Power to dis-approve any workmanship not in accordance with the contract.
- h) Evaluation of work done by the contractor for the purpose of payment.
- i) Inspection of all the documents required under the contract.
- j) Ensure that the contractor abides all the statutory and regulatory requirements.
- k) The Contractor should also maintain log book in addition to the records maintained by Trust and provide the same as and when required by the Trust.
- l) Any Contractors requirements such as security/insurance for the equipments, etc., are to be arranged by themselves.

18. OTHER CONDITIONS:

- a. Technical specification – “Schedule-A” and Price “Schedule – A1 to A3” to read in conjunction to make sure of the supply and works involved and Technical Compliance Chart shall be furnished.
- b. The firms are required to offer rates as per Trust’s format “Schedule-A1 to A3” without fail and mention taxes and duties. Trust will not produce Form C or D.
- c. The offer shall mention the make and model of the equipment and shall accompany with the relevant technical leaflet.
- d. The rate quoted should be maintained till the completion of work and no escalation of price/revision will be accepted.
- e. The bid shall be valid for a period of 120 days from the last date of submission of bid
- f. CME can accept or delete any of the items mentioned in “Schedule-A1 to A3”. However, the quantity mentioned is a minimum requirement.
- g. All Bidders should enclose a copy of GST and ESI Certificates.
- h. All the Bidders shall inspect the site and furnish their offers.
- i. The contractor must take care, issues related to govt. statutory compliances including all labour laws.
- j. The Bidders will submit the entire document with seal and signature on every page.
- k. For further details, the Bidder shall contact the Executive Engineer (E&C) Project at 2nd floor of Old Administrative Office Building, Rajaji Salai, Chennai Port Trust, Opp. Reserve Bank of India, Chennai – 600 001 - Phone No. 25312442.

CHIEF MECHANICAL ENGINEER

BUDGETARY OFFER FOR SUPPLY, INSTALLATION, COMMISSIONING, OPERATION AND MAINTENANCE OF ONLINE WEB BASED ISPS COMPLIANT RFID CONTROLLED HARBOUR ENTRY PERMIT SYSTEM COMPLETE WITH ALL ACCESSORIES INCLUDING TECHNICAL SUPPORT STAFF UNDER “LEASE OPERATING METHOD” FOR SIX YEARS.

SCHEDULE “A1”

SCHEDULE OF PRICES & QUANTITIES

Sl No	Description	Unit	Qty	Unit Price (in Rs.)	GST %	GST (in Rs.)	Total Price (in Rs.)
1	Supply of RFID HF Card Reader as detailed in Schedule “A”	Nos.	27				
2	Supply of Hand Held Terminal (HHT) as detailed in Schedule “A”	Nos.	4				
3	Supply of Gate Server as detailed in Schedule “A”	Nos.	5				
4	Supply of Nano PC as detailed in Schedule “A”	Nos.	22				
5	Supply of 32" LED Display with housing as detailed in Schedule “A”	Nos.	22				
6	On Line UPS with batteries						
a.	Supply of 1 KVA as detailed in Schedule “A”	Nos.	4				
b.	Supply of 2 KVA as detailed in Schedule “A”	Nos.	3				
c.	Supply of 3 KVA as detailed in Schedule “A”	No.	1				
d.	Supply of 5 KVA as detailed in Schedule “A”	No.	1				
e.	Supply of 10 KVA as detailed in Schedule “A”	No.	1				
7	8/16/24 Port Manageable Switches						
a	Supply of 8 Port switches as detailed in Schedule “A”	Nos.	7				
b	Supply of 16 Port switches as detailed in Schedule “A”	Nos.	2				

c	Supply of 24 Port switch as detailed in Schedule "A"	No.	1				
8	Supply of Poles for Mounting Readers as detailed in Schedule "A"	Nos.	16				
9	Supply of A/C & partition materials for 1 No of Central Server & 5 Nos. of Gate Servers as detailed in Schedule "A"	Sets.	6				
10	Supply of HF RFID personalization Reader cum Writer as detailed in Schedule "A"	Nos.	2				
11	Supply of Scanner as detailed in Schedule "A"	Nos.	2				
12	Supply of Web Camera as detailed in Schedule "A"	Nos.	2				
13	Computer system (Pass issuing office - 2 Nos. and NMS - 1 No.) as detailed in Schedule "A"	Nos.	3				
14	Centralized RFID Server System						
a.	Supply of Application Server as detailed in Schedule "A"	No.	1				
b.	Supply of Database server as detailed in Schedule "A"	No.	1				
c.	Supply of Mirror Database Server as detailed in Schedule "A"	No.	1				
d.	Supply of File/Report Server as detailed in Schedule "A"	No.	1				
15	Racks						
a.	Supply of 6U Rack for Switches as detailed in Schedule "A"	Nos.	4				
b.	Supply of 17U Rack for Gate Servers as detailed in Schedule "A"	Nos.	5				
c.	Supply of 42U Rack for Main Servers as detailed in Schedule "A"	No.	1				

16	Supply of Biometric locks (Central Server Room-1 No. & Gate Server Rooms-5 Nos.) as detailed in Schedule "A"	Nos.	6				
17	Supply of Signage Reflective Stickers as detailed in Schedule "A"	Nos.	10				
18	Supply of Web Based Port Access Control Software (PACS) including database, Back Up, Archive, Integration of APIs and web hosting along with all relevant software and licenses as required as detailed in Schedule "A".	Lump Sum					
19	Supply of all required software including operating system and licenses for servers, virtualization and any other requirement to complete the scope of work as detailed in Schedule "A".	Lump sum					
20	Installation, Testing and Commissioning of all the above mentioned items as detailed in Schedule "A"	Lump sum					
TOTAL							

(Rupees _____ only.
inclusive of all taxes)

Note: i). The Grand total shall be considered over a period of 72 months (6 years). However, the equated monthly payment will be made on grand total.

ii). Applicable GST shall be quoted separately in the column provided.

Company Name:	
Contact Person:	
Mobile No.	
Address:	

Bidder's Signature with Seal

BUDGETARY OFFER FOR SUPPLY, INSTALLATION, COMMISSIONING, OPERATION AND MAINTENANCE OF ONLINE WEB BASED ISPS COMPLIANT RFID CONTROLLED HARBOUR ENTRY PERMIT SYSTEM COMPLETE WITH ALL ACCESSORIES INCLUDING TECHNICAL SUPPORT STAFF UNDER “LEASE OPERATING METHOD” FOR SIX YEARS.

SCHEDULE ‘A2’

SCHEDULE OF PRICES & QUANTITIES

Description of work	Unit	Qty	Rate/Month	Amount
			(Rs.)	(Rs.)
Cost towards CAMC and onsite Technical support staff for up gradation, fault rectification, modification in the software for 6 years.				
1 st year.	LS			
GST @ %				
2 nd year.	LS			
GST @ %				
3 rd year.	LS			
GST @ %				
4 th year.	LS			
GST @ %				
5 th year.	LS			
GST @ %				
6 th year.	LS			
GST @ %				
Total				

(Rupees _____ only.
inclusive of all taxes)

NOTE:

- i). Budgetary offers without quote for CAMC along with onsite technical support staff for the supplied RFID system for 6 years will not be considered for evaluation.
- ii). The Grand total shall be considered over a period of 72 months (6 years). However, the equated monthly payment will be made on grand total.
- iii). Applicable GST shall be quoted separately in the column provided.

Company Name:	
Contact Person:	
Mobile No.	
Address:	

Bidder’s Signature with Seal

BUDGETARY OFFER FOR SUPPLY, INSTALLATION, COMMISSIONING, OPERATION AND MAINTENANCE OF ONLINE WEB BASED ISPS COMPLIANT RFID CONTROLLED HARBOUR ENTRY PERMIT SYSTEM COMPLETE WITH ALL ACCESSORIES INCLUDING TECHNICAL SUPPORT STAFF UNDER “LEASE OPERATING METHOD” FOR SIX YEARS.

SCHEDULE “A3”

SCHEDULE OF PRICES & QUANTITIES

Supply of Consumables	Unit	Qty	Unit Price in (Rs.)	GST %	GST in (Rs.)	Total in (Rs.)
RFID HF Cards	Nos.	30,000				
Total Amount						

(Rupees _____ only.
inclusive of all taxes)

- Note:** i). If additional HF cards are required, the same have to be supplied with the quoted price till the entire contract period.
- ii). The total payment will be made within 30 days from the date of acceptance of the materials by the Trust’s Engineer.
- iii). The payment will be made as per actual supplied quantity and the applicable GST shall be quoted separately in the column provided.

Company Name:	
Contact Person:	
Mobile No.	
Address:	

Bidder’s Signature with Seal

GRAND TOTAL (A1 + A2 + A3): Rs.

(Rupees _____ only.
inclusive of all taxes)

Note: The total cost under Schedules A1 + A2 + A3 will be taken for the evaluation of financial merit.