

# Enlistment of Vehicle Location Tracking (VLT) Devices (AIS-140 Compliant) Manufacturers with Emergency system, in Punjab

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By

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### Document Control

Document Title: Vehicle Location Tracking & Monitoring System (AIS 140) in Punjab

Document No. :

Name of Organization: Department of Transport Punjab

Abstract: This document provides the detailed procedure for enlisting VLT units for the implementation of AIS-140 standard based Vehicle Tracking and Monitoring System for all Public Transport Vehicles, Commercial Vehicles & Public Utility Vehicles registered in Punjab. For this AIS-140 certified VLTs from manufacturers will be enlisted based on the selection procedures specified in this **document**.

1	Listing Ref. No.	DTPB/VTMS/2020/1
2	Name of the Department	Department of Transport, Government of Punjab
3	Non Refundable Application Cost for OEM and their AIS 140 device	10000/- (Rupees ten thousand only)
4	Call for Applications	Soft copy can be downloaded from the website of Transport Department Punjab www.punjabtransport.org
5	Submission of application along with 2 VLTs with AIS-140 standard certificates by Manufacturers	Office of The State Transport Commissioner,Punjab,SCO 177-178,Sector 17 C Chandigarh -160017

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### Abbreviations/Acronyms:

ARAI	Automotive Research Association of India
CIRT	Central Institute of Road Transport
ICAT	International Centre for Automotive Technology
VRDE	Vehicle Research and Development Establishment
CFMTTI	Central Farm Machinery Training and Testing Institute
IIP	Indian Institute of Petroleum
GARC	Global Automotive Research Centre
NIC	National Informatics Centre
GSM	Global System for Mobile Communication
ISO	International Organization for Standardization
RTA/R&LA	Regional Transport Authority/Registering & Licensing Authority
SIM	Subscriber Identity Module
DTPB	Department of Transport, Punjab/State Transport Commissioner, Punjab
VLT	Vehicle Location Tracking Unit
GNSS	Global Navigation Satellite System
IRNSS	Indian Regional Navigation Satellite System
MORTH	Ministry of Road Transport and Highways
AIS	Automotive Industry Standard
eSIM	Embedded SIM
RFC	Retro fitment Centre
CCC	Command Control Centre
GAGAN	GPS-aided GEO augmented navigation
OEM	Original Equipment Manufacturer

# Glossary of Terms

The definitions of various terms that have been used in this document are as follows:

"Manufacturer" means a registered firm/company manufacturing AIS-140 (as per the latest amendment) certified Vehicle Location Tracking units in India.

Retro Fitment Centre" means a firm/company who is authorised to sell, install, support and service AIS-140 certified Vehicle Location Tracking Unit of Manufacturer.

### 1.Background

# 1.1. About Regulatory Compliance requirement for VLT devices with Emergency Buttons

**Reference:** 

- 1) MoRTH, Central Government, Notifications dated: 28.11.2016, 18.04.2018, 25.10.2018 and 2.11.2018
- 2) AIS-140 Standard including amendment 1(December'17) & Amendment 2 (December'18)
- 3) & any other amendments issued from time to time.

In pursuance to the series of notifications and orders issued by the Ministry of Road, Transport & Highways ('MoRTH'), Government of India as referred above wherein all Public Service Vehicle as defined under section 2(35) of the Motor Vehicle Act, 1988 ('MV Act') and Commercial Vehicles requiring/having permit, Public utility vehicles i.e Ambulances, Garbage Vehicles, Disaster Management Vehicles etc., shall mandatorily be equipped with the Vehicle Location Tracking device ('VLTD') along with one or more emergency button in compliance with the standard of AIS-140. For this DTPB has decided to enlist manufacturers who can meet the specifications of AIS-140 standard and the specific requirements of the State. The AIS 140 approved VLTD manufacturers will be selected through an enlisting process, as defined in this document and DTPB will approve the selected Manufacturers to sell their devices in Punjab.

Department of Transport, Punjab, under the Ministry of Transport, Government of Punjab is the principal agency for the enforcement of the Motor Vehicles Act and Rules in the State. Vehicle Tracking & Monitoring System is a technology used by many countries, companies and individuals to track vehicles using Global/Indian Regional Navigation Satellite System (GNSS/IRNSS). Apart from enforcement of public road transport rules, the system can also give other valuable services to DTPB and the general public.

# 2. About Department of Transport Punjab

The Non Commercial Wing of Transport Department, Punjab (hereinafter referred to as "Transport Department") functions under the provisions of section 213 of Motor Vehicles

Act, 1988. The Transport Department is primarily established for enforcement of the provisions of Motor Vehicles Act, 1988, Punjab Motor Vehicles Taxation Act, 1924 (Amended 1993) and the rules framed under these two acts from time to time.

The Transport Department is headed by the State Transport Commissioner (STC). STC is assisted by two Additional State Transport Commissioner, one Joint State Transport Commissioner, Deputy Controller (F&A), Deputy State Transport Commissioner, Service Engineer, Automobile Engineer, Assistant Transport Commissioner (Tech) in the Head office.

The Transport department has 11 RTAs, 1 STA, 80 SDMs as registering authorities and 32 ADTTs offices across the State of Punjab. The offices including the STC, RTA, ADTT and SDM offices are collectively referred to as the "Transport Department Offices".

Vehicles which are required to be fitted with VLT devices along with Panic button are categorized into:

- Public Service Vehicles
- Commercial Vehicles requiring/having permit
- Public Utility Vehicles i.e. Ambulances, Garbage Trucks and Disaster Management Vehicles etc.

### About "AIS-140 standard based Vehicle Tracking & Monitoring System"

Department of Transport Punjab envisages to track the public service vehicles & commercial vehicles in Punjab. The objective of the project is to introduce a tracking system for continuous monitoring of public transport & commercial vehicles for better road safety and better support for enforcement services.

### Components of AIS-140 based Tracking System

The tracking system is a combination of hardware, software and communication technologies. The major components of tracking system are

1. Vehicle Location Tracking Unit(VLT): VLT is a hardware unit equipped with GNSS/IRNSS logger, a GPRS/3G/4G based communication system, power supply

and back up mechanism. The entire system is packed into a rigid enclosure with proper indications and power input.

- 2. Vehicle Location Tracking Software: A software system receives the data from VLT, passes it and logs it. This data is further processed for generating automated alerts and messages. The software resides in server(s).
  - **3. Communication facility:** VLT sends the geo-location information to the server in a predefined interval. The most common communication method is using GPRS/3G/4G, made possible through the existing mobile networks using eSIM.

4. **Monitoring System:** A map system is integrated to the software for real time plotting of the vehicles on a map. Monitoring centres can view this map displayed on a web browser

# 3. Enlisting of VLTD manufacturer and their devices

DTPB intends to enlist Vehicle Location Tracking units (VLTs), which can be used in the public transport vehicles, for enabling tracking and monitoring of the vehicles. The objective of VLTD enlisting is to standardise the VLTD data protocol and data format specification to meet the state specific requirements and to support the customers to avail good quality VLTD devices and after sales services. Accordingly, the prequalification requirements for the manufacturer and the specifications for vehicle tracking unit firmware details are listed in this document. Enlisting is for the devices, and as such, multiple devices from the same manufacturer will require separate applications for enlisting. The DTPB will publish the list of enlisted VLT models and the vehicle owners will be advised to procure only the enlisted VLT models from enlisted original equipment manufacturers and/or their RFCs.

- All VLT device Manufacturer must ensure that their respective VLT device has been certified as per the AIS-140, by the approved testing agency like ARAI, CIRT, ICAT, CFMTTI, IIP, VRDE, or GARC, referred to in rule 126 of the Central Motor Vehicles Rules, 1989 are eligible to apply.
- 2. The Manufacturers can apply their VLT device models for enlisting based on the criteria specified in this document.

- 3. If manufacturer wants more than one VLT model to be enlisted, separate application is to be submitted for each VLT model.
- 4. The evaluation of application for enlisting would be carried out based on the prequalification criteria and technical evaluation.
- 5. Only enlisted VLT models are to be used by public & commercial vehicles in Punjab.
- 6. VLT manufacturers cannot sell their models for the Public Transport and commercial vehicles in the Punjab once their authorisation/ certification is suspended, cancelled or not renewed for any reason.
- 7. Manufacturers must give an undertaking to DTPB that in case their authorisation/certification is suspended, cancelled or withdrawn for any reason, they will continue to support the devices already sold for the public transport & commercial vehicles .
- 8. Manufacturers must have a Call-centre or similar arrangements to address the queries and any other issues from the end users.
- 9. Manufacturer must open its own/authorised Retro fitment Centers/Service Centers authorised to sell, install, support and service at minimum 11 different districts/places of the State (namely Amritsar, Bathinda, Faridkot, Fazilka, Gurdaspur, Hoshiarpur, Jalandhar, Ludhiana, Patiala, S.A.S. Nagar (Mohali)), the VLTs in Punjab and must be directly responsible for the service to permit holders and other stake holders hence the manufacturers must submit a declaration and details of centers for the same along with the application form. DTPB may issue directions, later to extent the support and service availability of VLTs SDMs/District wise.
  - a. DTPB has its own discretion to inspect & verify facilities provided by OEM of VLTD at any site/sites of RFC Centres.
  - b. The manufacturer should facilitate eSIM subscription in VLT devices along with a subscription of two years for new vehicles and one year for old vehicles from service providers on behalf of the Vehicle Owners and must take necessary steps to ensure the continuity of the service once the eSIM validity period is expired. The prior alerts should be sent to permit holders before expiry of the validity.

- c. Manufacturers should have sufficient infrastructure like computer, internet service, official phone number, and technicians etc. to provide assistance to end users at the fitment/call/service centre.
- d. DTPB can terminate the approval of the enlisted manufacturer at any time if it is found violating any of the provisions of the CMVR- 1989, AIS- 140, any other direction issued by the DTPB or any other applicable law.
- 10. DTPB reserves the right to change the terms and conditions, governing the certification and approval at any point of time.
- 11. Unless the enlistment of any VLT model is cancelled by DTPB, the certification of VLT model shall remain valid as long as such model continues to comply with the terms and conditions of AIS-140 standard or for 1 year whichever is less. Before the expiry period manufacturers have to renew the certification in accordance with DTPB regulations.
- 12. DTPB reserves the right to modify the VLT device specification or add additional features to existing specification. The release of the VLT device specifications will be in a version-controlled fashion.
- 13. Every VLT models and service of manufacturers selected through enlisting process can be reviewed by DTPB and subsequent actions will be taken against those who violate any of the regulations listed out in this document.
- 14. DTPB may initiate the enlisting process, as and when required. Enlisting shall be a continuous process and only AIS 140 VLTD manufacturers shall be allowed.
- 15. Interested Manufacturers for the respective VLT models which comply with the DTPB requirements may download the enlisting document from the website and submit the same duly filled in and supplemented with all relevant documents to DTPB for further processing.

## 4. Scope of the Project

Department of Transport Punjab is planning to track all Public service vehicles & commercial vehicles, in phased manner. These vehicles should be tagged with VLT devices. The owners of the vehicles registered should purchase the VLT devices from selected manufacturers or their RFC only.

VLTD Manufacturers/ enlisted RFC will be given controlled access to the Vahan Portal/DTPB/NIC Common layer application/backend for tagging (connecting) and feeding the details of the VLTs to the backend application in real time. The DTPB/NIC Common layer application/backend should provide login & monitoring interface to various stakeholders such as state emergency response team, the transport department or Regional Transport Offices, Police and any other agency defined by state as per requirement, Ministry of Road Transport and Highways and its designated agencies.

Manufacturers should train the RFCs for installing the VLT devices in vehicles and support the customers whenever required. Manufacturer shall provide warranty (at least for two year) and AMC for their products. Enlisted manufacturers and their RFC have to supply and support certified VLT models across the State. Any complaint registered through the DTPB website/email or transport department official should be serviced within 48 hours of complaint raised by the customer. For redressal of complaints a suitable escalation matrix shall be defined and monthly reporting to DTPB shall be ensured. For redressal of complaints the customer web interface and mobile app must also have a support ticketing system to enable customers to report problem or raise support requests, which should be serviced by the respective manufacturer and their RFC and monthly MIS reporting to DTPB shall be ensured

 In addition to above, It will also ensure regular updation in Vahan through DTPB/NIC backend/Common layer application for enlisting, activation, health check and alert updates of VLT devices. Such DTPB/NIC Common layer application/backend shall be setup as per discretion of the state

- DTPB/NIC Common layer application/backend will be used for activation, registration, updation, health checks and/or alert updations as required by DTPB/Vahan.
- DTPB/NIC Common layer application/backend will provide interface where the DTPB will be able to create Routes with route/Point fencing and receive alerts and reports in case the vehicle deviates from its routes or in case of nonserving of their respective routes. The backend system of application must also provide interface to DTPB to be able to create stoppages in the routes and also define the allowed stoppage time. Alerts and reports must be created for the Vehicles in violation to the allowed stops and stoppage timings.
- DTPB/NIC Common layer application/backend will provide a "Customer web interface" and" customer mobile app" for the vehicle owner to track his vehicles in real time and also provide various historical & real time reports to the vehicle owner/DTPB.
- DTPB/NIC backend/Common layer application must have provision for integration with any other technology used by the department for better monitoring system
- A separate Parent's Bus Tracking Mobile App & Web Interface, which would enable the parents to track their children & Citizen's Mobile App & Web Interface for citizens travelling through the Passenger vehicles, will be available, in the interest of the public.
- DTPB/ NIC Common layer application/Backend will include all features as per latest guidelines issued by MoRTH Govt. Of India/DTPB from time to time.

DTPB/NIC Common layer application/Backend must sent SOS SMS, tracking info, Email and alert by call on specific mentioned contacts of the state agencies in case of panic button pressed.i.e.Geo fencing of jurisdiction of various enforcement authorities will be required to be done so that in case of panic button pressed, it will automatically alert the concerned authority, vehicle owner and other required stakeholders as required by DTPB.

Enlisted manufacturers should train the RFC for installing the VLT devices in vehicles and support the customers whenever required. In compliance to the order, enlisted manufacturer must ensure proper fitment of the VLT device in the vehicle.

# 5. Pre-Qualification Criteria for VLT Manufacturer

DTPB shall carry out the evaluation process of VLTs. Manufacturers have to meet the following pre-qualification criteria for registration.

### Pre-Qualification Criteria

S.No.	Criteria	Required Documents
1	The Manufacturer should be a registered company in India under the Companies Act, 1956/2013/MSME/Firm with certified AIS 140 product and valid COP	Certification of incorporation/UAN in case of MSME
2	The Manufacturer should not be blacklisted by any Central/ State agencies in India.	Self-declaration by the manufacturer signed by the authorized signatory
3	Only OEMs will be allowed to participate in registration as VLTD manufacturer.	Copy of relevant Certificate
4	The VLT model which Manufacturer intends to submit for registration must be certified according to AIS-140 standard by CMVR test agency. Device must support IRNSS.	Copy of relevant Certificate(s)
5	The VLT device should have feature to customized integration with Manufacturer's Backend / Command and Control Centre /State Data Centre, as per DTPB requirement	Self-declaration by the manufacturer signed by the authorized signatory.
6	The Manufacturer shall agree to open an Office in Punjab within one month, once the Manufacturer is registered.	Self-declaration by the manufacturer signed by the authorized signatory
7	3 Year balance sheet, income tax return, PAN and GST registration number of manufacturer is required	Copy of relevant Certificate(s)
8	Type of approval from test agencies (ARAI /CIRT/ICAT /VRDE/ CFMTTI /IIP/GARC)	Copy of relevant Certificate(s)
9	Manufacturer must possess Valid COP from testing agency (ARAI/CIRT/ ICAT/	Copy of valid COP(s)

	VRDE/CFMTTI/IIP/GARC), as per AIS 140	
10	The manufacturer shall submit an affidavit for privacy of the data/information stored related to VLTD/Vehicle/vehicle owner	Self-declaration by the manufacturer signed by the authorized signatory

The Manufacturer must submit all the certified and authenticated documentary proof for meeting the pre-qualification criteria. Such documents may include AIS-140 certification for submitted model, company registration certificates and other credentials.

Any entity (manufacturer) which has been punished for any offence or any representative of that entity is convicted for any offence or against whom any criminal cases is/are pending before competent court, shall not be eligible to submit the proposal. The manufacturer shall have to submit affidavit to this effect.

In addition to the standard AIS 140 specified alerts, Transport Department Punjab(DTPB) recommends below features.

- a) Hooter (mandatory)
- b) Tilt Alert (Optional)
- c) Impact Alert (mandatory)
- d) Alert on tampering and vehicle battery removal (Mandatory)
- e) Alert in case of geo- fencing violation (Mandatory)
- f) Any other alert/MIS report required by DTPB
- g) Minimum 2 emergency buttons in all passenger cars; one for passenger seat and one for driver (Mandatory). Details are in 'Guidelines for implementation'.
- h) Minimum 5-7 emergency buttons in all other public transport vehicles (Mandatory).
   Details are in 'Guidelines for implementation'.
- i) The emergency buttons should be fitted in location easily accessible the (driver/passenger) intended it. public to person to use In transport vehicles like buses the emergency buttons should preferably fitted on the vertical pillar above the window rail below the be luggage rack. Refer pic 2 and 3 in 'Guidelines for implementation'.

### 6.DTPB/NIC Common layer application/ backend

DTPB/NIC Common layer application/ backend will be as per the code of practice guidelines of AIS140. The backend system (Both the Web and Mobile App) will have valid security Audit certificate from the authorised agency as defined in AIS 140. The following mandatory provisions will have to be made in the DTPB/NIC Common layer application/ backend:

- Registration and activation of the device(s) fitted date of fitment & activation on the vehicle, including the details of vehicle registration number, engine number, chassis number, vehicle make and model, device make and model, and telecom service provider's name.
- 2) Re-registration/re-activation of the device(s) fitted on the vehicle in case of any change in device or telecom service provider, etc.
- 3) Regular health check of the device(s) fitted on the vehicle, as per the parameters and frequency defined in Sub-section 3.1.4 of AIS 140 document
- 4) Administration/configuration of devices for any changes in the parameters as decided by the state from time to time.
- 5) Notification of alerts in case of press of an Alert Button fitted on the vehicle, in the protocol defined in Section 4 of AIS 140 document and Standard operating procedure defined by State.
- 6) Notification of alerts in case of defined deviations by vehicle such as overspeeding, deviation from defined route/geographic area, time of operation, etc.
- 7) Location tracking of the vehicle including real-time as well as history tracking for up to last 90 days.
- 8) Notification to the permit-holder through SMS in case any device(s) stops functioning/sending data to the Backend Control Centre.

- 9) Reports of the vehicles with devices not working/sending data beyond defined number of days (1 day, 3 days, 7 days, 30 days or configurable by DTPB).
- 10)Ensure that the security and privacy of the data is maintained in accordance with applicable laws/guidelines of various government authorities.
- 11) The DTPB/NIC Common layer application/backend must have provision for migration/integration with State Data Centre/NIC cloud
- 12) The DTPB/NIC Common layer application/backend must have the facility to retain activation & other Vahan related data for unlimited duration for the period the DTPB/NIC Common layer application/backend is unable to connect to the Vahan. The data must be updated to Vahan as soon as the backend system is connected to Vahan.

In addition to the above mandatory provisions, the DTPB/NIC Common layer application/backend shall be capable to provide any other optional features as per requirement of the State.

### 7. Submission of Application for Registration

The Manufacturer can apply for enlisting of one or more models of VLT devices in the state.

# 8. General Conditions

Manufacturers are advised to study the document carefully. Submission of application will be deemed to have been done after careful study of all instructions, eligibility norms, terms and requirement specifications in this document with full understanding of its implications. Applications not complying with all the given clauses in the document are liable to be rejected. Failure to furnish all information specified in this document or submission of application not substantially responsive to the document in all respects will be liable for rejection.

(i) Application for registration will be hosted in DTPB official web site (www.pbtransport.org) and can be downloaded and used for submission of

application forms. Application fee shall be paid to DTPB along with the submission of application.

- (ii) Un-signed and un-sealed application shall not be accepted.
- (iii) All pages of the application and documents being submitted must be signed and sequentially numbered by the Manufacturer.
- (iv) Ambiguous applications will be out-rightly rejected.
- (v) Applications not submitted as per the format will be rejected straight away.
- (vi) No deviations from the specifications will be accepted.
- (vii)The Manufacturers will bear all costs associated with the preparation and submission of their applications. DTPB will, in no case, be responsible or liable for those costs, regardless of the outcome of the registration process. In case of incomplete applications where DTPB requires the Applicants to submit any missing/incomplete information/documents, the receipt of such clarification/documents by DTPB shall be deemed to be the date of submission of the Application. DTPB may, at its own discretion, can add or delete any clause of this document.

# 9. Enlisting fee for VLTD Manufacturer

The application shall be submitted along with enlisting fee of Rs. 10000/-(Rupees ten thousand only). It can be submitted through demand draft in favour of "Punjab State Transport Society" payable at Chandigarh .The enlisting fees paid to DTPB will not be refundable. An application not accompanied by the aforesaid payment shall be considered as non-responsive and will be rejected.

# 10. Performance Bank Guarantee Fee

A performance bank guarantee of Rs 20,00,000/-( Rupees twenty lakh only) shall be submitted by the successful manufacturer intending to be enlisted, within 15 days. The

performance guarantee shall be in the form of bank guarantee issued from any of the nationalized banks and shall remain valid for three years.

### Forfeiture of Performance Bank Guarantee:

Performance Bank Guarantee amount in full or part may be forfeited, including interest, if any, in the following cases:-

- (i) When any of the below circular/notifications not breached by the manufacturer
  - (1) AIS-140 Standard including amendment 1 (December'17) & Amendment 2 (December'18) and any other amendments from time to time.
  - (2) When manufacturer fails to comply with any other circular/notifications issued by MoRTH/ Central Government/State Government /DTPB from time to time.
- (ii) When the manufacturer fails to comply with any applicable terms & conditions of this document
- (iii) When manufacturer fails to provide integration with Vahan data base on real time basis and to DTPB/NIC Common layer application/ backend of the State as per requirement.
- (iv) When the manufacturer or RFC is involved in malpractices.

Notice will be given to the manufacturer with 14 days time before Performance Bank Guarantee deposited is forfeited.

No interest shall be payable on the Performance Bank Guarantee.

### 11. Submission of Application

- a. A Manufacturer can apply for enlisting of one or more models of VLT devices.
- b. The Manufacturer is required to submit statement of compliance of the devices with the specifications as set out in this document.
- c. The Manufacturer is required to submit their application in the prescribed format in this document.

- d. The Manufacturer is also required to submit two VLT devices, eSIM with 1 year data plan validity and all other necessary documentation needed for interfacing and testing. The department may call registered VLT devices for inspection any time.
- e. All communications and proceedings shall be in writing, in Punjabi or English language only

# 12. Details of Document to be submitted

The Manufacturers are required to submit the following documents.

- a) Table of contents listing documents and other details submitted.
- b) DD towards enlisting cost.
- c) Manufacturer enlisting form.
- d) Type approval certificate.
- e) Authorization for RFC.
- f) Compliance report in terms with specifications for VLT devices. Both hardcopy and softcopy (in pdf format) of the above documents are required to be submitted. The documents along with registration form need to be submitted in а sealed envelope clearly bearing the following: "Application for enlisting of AIS-140 VLTD Manufacturer", Department of Transport, State Transport Commissioner -Punjab". Name and address/email of manufacturer with contact number. The application should reach DTPB at the :

### Office of State Transport Commissioner Punjab,

SCO -177-178, Sector 17 C, Chandigarh E-mail ID -stc.punjab04@gmail.com contact no: 0172-2702575

## 13. Evaluation of Applications

- a) The application found complete in all respect shall be considered for processing and testing of VLT devices for compliance with specifications.
- b) DTPB reserves the right to verify all statements, information and documents submitted by the applicant. Applicant may be asked to submit more documents, if any clarification required.
- c) Decision of DTPB regarding enlisting/ rejection of the VLT devices under this process will be final and no correspondence in this regard will be entertained by DTPB.
- d) Selected manufacturer models will be published on DTPB website after submission of PBG by the shortlisted manufacturers.
- e) DTPB may conduct site inspections and validate the facilities of RFC identified by manufacturers as RFC for distributing and fitting the VLT device to customers.
- f) In case DTPB delist any RFC due to any dissatisfaction or RFC withdrawal, then the corresponding manufacturer shall arrange alternate RFC in the same region.

# **Operational Evaluation**

Compliance against the operational specifications below needs to be submitted by the applicant. The same should be subjected to demonstration by the Applicant and/or testing by DTPB for validation, as mentioned below:-

SI.No.	Specification	Validation Process	Confirmation (Yes/No)
1	Communication Protocol as per AIS140 standards in line with Ministry of Road Transport & Highways (MoRTH) directives	Device functionalities to be demonstrated by the Applicant at the time of submission	

	and		
	notifications.		
2	Demonstration VLTD device on test server configuration Fitment of the VLT	Acknowledgement of test command given to device and display of Tracking message to the backend system	
3	device with Panic Button System, in a test passenger vehicle	Demonstration and connection, in the test vehicle	
4	Demonstration of live tracking & Alert Messages as per AIS- 140, when the Panic button is pressed.	Demonstration of the live tracking & alert message at DTPB/NIC Common Layer application/Backen d test server and emergency response server (2 messages at two different servers)	
5	The Primary source of power for the device should be from vehicle's battery. When the device is disconnected from vehicle battery it should start operating on	A demonstration by Applicant together with supporting document as under: AIS-140 Certification.	

	internal battery		
6	Alert on tampering and vehicle battery removal.	A demonstration by applicant together with supporting document as under: AIS-140 Certification	
7	Device should meet all the features prescribed as per AIS-140	A demonstration by applicant	
8	Device shall be capable for operating in L and/or S band and include support for NAVIC/IRNSS (Indian Regional Navigation Satellite System)	Certification	
9	Device should meet all the features prescribed as per AIS-140 i.e. Emergency Alert Emergency button wire disconnect/wire-cut Vehicle Battery Disconnect/ Main power removal VLT device opened Over speed Harsh Breaking/Accelerati on Rash Turning Impact GEO Fencing entry/ exit	A demonstration by the applicant	

Vehicle battery reconnect/Low	
1000IIII000/E01	

#### Legend:

Yes: Feature is available in the Vehicle Location Tracking Device model submitted.

No: Feature is not available in the Vehicle Location Tracking Device model submitted.

- After successful demonstration/ evaluation intimation will be sent to of successful AIS-140 VLTD manufacturers
- A performance guarantee shall be submitted by the successful AIS-140 VLTD manufacturer intending to be enlisted, within 15 days.
- Subsequent to which successful AIS-140 VLTD manufacturer name will be published in enlisted VLT manufacturer list and required credentials of the VAHAN will be issued to the manufacturer.

#### Final Selection of VLTD Manufacturer:

The final selection of VLTD manufacturer will be done on the basis of fulfilling prequalification criteria as well as and operational evaluations done by the DTPB.

#### Blacklisting:

If any information or document provided by the manufacturer is found to be false or misleading during the evaluation process, such application would be liable for rejection and if the VLT device has been enlisted, its enlistment would be liable to be cancelled. Further, the Manufacturer may be considered for blacklisting.

### 14. Guidelines for implementation

Guidelines for the Implementation of VTMS

#### 1. Guidelines to VLT Manufacturers/RFC

a) Vahan 4.0 :

- i. The details of each VLT device (VLT device manufacturer code, device serial number, IMEI number, IccID number and other details as notified by the Central Government/State Government) shall be uploaded on the Vahan 4.0 directly or through DTPB/NIC backend/Common layer application by the VLT device manufacturer using its secure authenticated access.
- ii. The VLT device manufacturer will ensure uploading device data in Vahan 4.0 system against the respective vehicle record at the time of installation and registration/activation of VLT device.
- iii. In case of any problem in updating Vahan 4.0, it will be VLT device manufacturer's responsibility to resolve the same.
- iv. Regional Transport offices/Motor Vehicle Inspectors shall be able to verify the registration/activation/functional status of VLT device in the Vahan 4.0 /corresponding DTPB/NIC backend/Common layer application (both in web & mobile App) at the time of fitness testing.
- v. The permit holder will have option to check the installation and device working status in the Vahan 4.0 / corresponding customer mobile App & web interface.
- vi. Publish VLT device details in the Vahan 4.0/ any other State/UT system used for registration of vehicles and/or issuance of permits
- vii. Publish alerts and health check as per AIS-140 specifications or as specified by State, received from VLT device in the Vahan 4.0 and any other State system used for registration of vehicles and/or issuance of permits.
- b) Operational Process:

- Each VLT device manufacturer shall provide the details of their respective internet protocol address (IP address) and Short Message Service Gateway (SMS gateway) number of their respective emergency response system, where VLT devices will send the emergency alerts on press of emergency button and DTPB/NIC Common layer application/backend.
- ii. The VLT device manufacturers or their authorised RFC, at the time of installation of VLT device in vehicles, shall configure the IP address and SMS gateway details in the device for sending emergency alerts to the emergency response system of the DTPB/NIC backend/Common layer application.
- iii. In case of press of emergency button, the VLT device manufacturer must ensure that the device must be configurable to forward Emergency alerts & calls through DTPB/NIC Common layer application/backend to the designated officers/offices, as may be notified by the department from time to time.
- iv. The Manufacturer's device should also provide information with regard to the VLT device fitment validity, device health status, etc to DTPB/NIC backend/Common layer application to ensure execution of the order and to ensure proper fitment and functional status of the VLT device in the public service vehicles & commercial vehicles at all times.
- v. In compliance to the order, manufacturer must ensure proper fitment/ activation of the VLT device and e sim in the public service vehicle.
- vi. AIS-140 VLTD tracking data should be kept live in the DTPB/NIC Common layer application/ backend for at least 90 days. Utilities should be provided to support archive and restore functions for older data. Alerts/ reporting shall be available for one year in the backend.
- vii. Authentication of vehicle shall be done through an OTP sent on vehicle owner's registered mobile number from the corresponding backend system.
- viii. An installation certificate Annexure-H (Sample format), along with the fitment certificate and warranty certificate will be issued to the vehicle owner as owners copy and Department of Transport copy. Fitment certificate with photo of the installed device in the vehicle, photo of the

front of the vehicle with number plate, photo of the RC and a unique encrypted QR code must be provided by the manufacturer at the time of installation & fitment of the VLT in the vehicle. After activation of the device on the DTPB/NIC Common layer application/backend the data will be available on VAHAN 4.0 VLT maker module and/or DTPB/NIC Common layer application/backend. This will enable proper checking of the vehicles for fitness certificate and for compliance of the functional requirements at RTA/Authorities end.

- ix. The DTPB/NIC backend/Common layer application of the VLT device will provide both backend web portal and backend mobile app to the Transport Commissioner, Regional Transport Authority, MVI, flying squad, or any authorised enforcement officer, which should provide a facility to on-spot verify the certificate of the vehicle/ registration /activation/functional status of the VLT devices at any time, online through scanning of the printed QR code on the fitment/ installation certificate. Such information must include: VLT serial/ IMEI No, Manufacturer name & code, VLT Device Model, Vehicle Registration No., Chassis No, Engine No., Vehicle Model, Owner Name, installation Date, Expiry date and direct link to live Track the vehicle. The web portal will provide various detailed real-time state-wide reports to the transport commissioner and the Regional Transport Authority and any other authority.
- x. The DTPB/NIC backend/Common layer application must provide interface where the State Transport Commissioner/RTA/competent Authority must be able to create routes with route fencing for each public service vehicles and receive alerts as well as reports in case the vehicle deviates from its routes or in case of non-serving of their respective routes. The DTPB/NIC backend/Common layer application will also provide interface for the Transport Commissioner/RTA to be able to create stoppages in the routes and also define the allowed stoppage time. Alerts and reports must be created for the vehicles in violation to the allowed stops and stoppage timings.

- xi. The DTPB/NIC Common layer application/backend will provide both backend web portal and backend mobile app to the RFC/Dealer and its technicians to ensure online real-time installation & fitment of the VLT device in public service vehicle, public utility vehicles & Commercial vehicles.
- xii. In compliance to the functional requirements of the order, each VLT must send health & location data at regular intervals to the established DTPB/NIC Common layer application/ backend.
- xiii. DTPB/NIC Common layer application/ backend entire data will hosted on server physically located at the State Data Centre of Punjab/NIC cloud server and no data or its copies should be hosted outside India.
- xiv. VLT device Manufacturer/RFC should ensure alerts to DTPB/NIC Common layer application/backend must be in strict compliance to the clause 8 code of practice ( for implementation of VLT device, emergency button(s) and CCC) of the AIS 140
- xv. Each Manufacturer must provide to State, a secure mechanism & SMS command set of their device to update, query and configure the device parameters, as defined in AIS 140, using the DTPB/NIC Common layer application / backend application.
- c) Regarding RFC for installation and maintenance
  - Enlisted OEM should arrange their RFC, as defined in document, in the state
  - Enlisted OEM should have a supervisory control over RFC operations and should ensure quality service to customers

RFC should have the following facilities:

- > An office in the region
- > Trained technicians to fit the VLT device in vehicles
- A minimum of one person with computer & internet knowledge for tagging device with DTPB application & printer for printing the installation certificate

- A contact telephone number should be given to customer to call for support.
- Quality of service (QOS) -

The VLT manufacturer will provide directly or through RFC the following QOS as per standards mentioned below-:

> UP time of the device and tracking upto 97% calculated in the month.

- If any complaint is raised against the installed VLT device, then the concerned manufacturer/registered agency/ franchisee/RFC should respond within 8 hours .
- ii. For complaint classified as high, resolve within 24 hrs of reporting the complaint.
- iii. For complaint classified as medium, resolve within 48 hrs of reporting the complaint.
- iv. For complaint classified as **low**, resolve within 72 hrs of reporting the complaint.
- v. If more time is required, then a standby VLT should be installed temporarily and replaced once the original VLTs issue gets solved. The complaint and clarifications should be logged into the Website/Mobile App integrated with DTPB/NIC Common layer application/backend.
  - The department can anytime ask for the above i to v reports. In case of gross irregularity i.e. if manufacturer/RFC unable to resolve minimum 40% of complaints in time than notice of cancellation to be issued to concerned VLTD manufacturer/RFC.
- Classification of High, Medium & Low Complaints

**High** - Any physical damage or hardware issue which completely stops or effects the normal working of VLT/ Error in normal & emergency data sending/ Missing or unwanted generation of critical alerts / Issues related to

Emergency buttons etc.

**Medium** - any condition which makes the device partially working like wrong update frequency, missing or unwanted generation of Non critical alerts, issues related to hooter/buzzer etc.

**Low** - Any condition which limits certain features of the device without effecting the normal working of the VLT like Issues related to full packet, health packets etc.

### Complaint Register

If the VLT device is found to have any complaints, then it should be registered in the complaint register module of the application to avoid false alerts. All the complaint registered should be rectified within the timeline specified in the above service time

### Subscription Renewal

All AIS-140 VLTD enlisted manufacturers should ensure that they / their RFCs provide a subscription renewal certificate to vehicle owners at the time of renewal of the subscription. This certificate should be produced by vehicle owner to MVI at the time of inspection for Certificate of Fitness (CF) in printed or electronic format (in backend App / customer App)

### Training to RFC

All manufacturers should have master trainers who are well trained and thorough in backend application used at RFC. These master trainers should give training to franchises/RFC technicians for fitment and tagging of VLT device.

### d) Regarding Fitment of VLT device in Vehicle

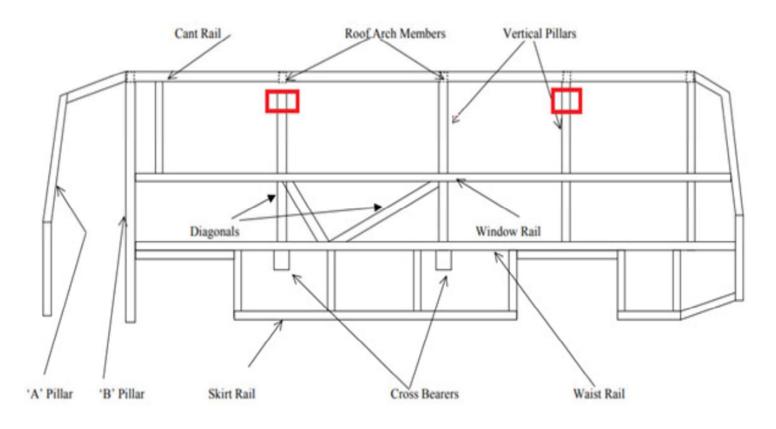
### Position of VLT and Panic Buttons

Physical mounting of VLT device in vehicle should be as per AIS140 section 5.3. It is mentioned as 'The VLT system shall be mounted in a suitable location such a way that it is not easily accessible/exposed to passengers'. VLT device may be fitted over the dashboard for heavy vehicles and under

the dashboard for light vehicles. The IMEI Number of VLT device should be clearly indicated above the device in such a way that it can be easily identified.

It has been recommended to fit a minimum of 1+1 (1 for passengers and 1 for driver) and a maximum of 4+1 (4 for passengers and 1 for driver) panic buttons based on the seating capacity of the vehicles. Panic buttons for passengers may be fitted suitably in the vertical pillars on both sides of the vehicle. Additional panic buttons for ladies rows to be fitted as per the AIS140 section 5.3. Panic buttons should be easily and equally accessible to all passengers and students in the vehicle. The minimum recommended fitment may be as follows

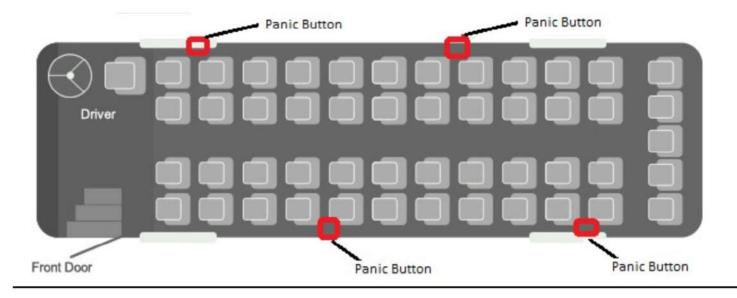
- Up to 7 seat : 1+1( 1 for driver and 1 in back of 2nd row seat).
- ✤ 8 seat to 13 seat : 1+2( 1 for driver and 1 each in 2 sides).
- 14 seat to 23 seat : 1+3 (1 for driver and 1 in right side 2nd row , 2nd in right side 2nd last row and 3rd in left side middle row).



24 seat and above : 1+ 4(As shown in Figure 2)

Figure 1: Panic Button position in vertical pillars

✤ Additional panic buttons as per the AIS140 section 5.3



#### Figure 2: Indicative Panic Button positions for 49 seater

Note: The images shown are indicative. Fitment technicians should identify best positions for panic buttons based on the seating layout and body type of the vehicle. Primary consideration should be given to accessibility and safety of passengers.

#### • Wiring of VLT and Panic buttons

VLT devices and panic buttons should be properly wired in the vehicle. The wires to panic buttons and hooter/ buzzer should be provided with proper shielding or outer covering. No wires should be exposed or seen hanging. Wires should be properly coupled and should be fire proof.All safety precautions should be taken in fitment of VLT devices and panic buttons.

#### Hooter / buzzer

Hooter/buzzer for emergency condition should be loud enough to be audible to passengers and nearby people outside the vehicle. It should be placed in a convenient position inaccessible by passengers.

#### Notice to Passengers & Public

Proper indication to passengers and public should be given in the vehicle. Stickers indicating the fitment of Vehicle Tracking Device (Fitted with AIS140 Vehicle

**Tracking System)** - may be placed at front and back side of the vehicle. Information regarding the panic button should be provided to passengers.

Messages indicating the use of Panic button eg: **Press in case of Emergency Only, Misuse will result in penalty**, should be placed above each panic button.

### e) NERS

As per the mandate of AIS140, when NERS system of the state become operational, the device should send the emergency alert packet to the server mentioned by NERS team. The data format should be as per the NERS specifications. The vendor should ensure that all deployed devices meet this mandate.

### f) White listing of IP and SMS mobile number

DTPB/NIC Common layer application/ backend will publish the IP / Domain to which data should be send. Manufacturers should ensure that the device will send data to the allowed IPs only.

Backend will publish the SMS gateway short code or mob number from which the activation key and other configuration parameters may send. Vendor should ensure in the firmware that the device will not respond to any SMS from any unauthorized mobile number.

### g) Customer Support

Vendor should set up a call centre or a 24/7 toll free number for customer support. Any queries regarding the VLT, service or complaints should be properly addressed.

# Annexure - A. Application Form for Enlisting of OEM & their VLT device

Annexure - A.

## Application Form for enlisting of OEM & their VLT Device Format for VLT Application Form ( on the official letter head of manufacturer)

### Date :

To, State Transport Commissioner, Punjab, SCO-177-178, Sector 17 C, Chandigarh. E-mail ID: stc.punjab04@gmail.com

### Sub: Enlisting of AIS-140 VLTD OEM for the Public Service Vehicles in Punjab,

Sir,

We have fully understood the requirements of the process " Enlisting of OEM & their Vehicle Location Tracking Unit (VLT) for Public Vehicles, in Punjab" and are submitting our enlisting application for the following VLT device(S)being manufactured by us with the required details, other information as per the registration process and the compliance report for VLT specification and protocols

OEM name and address	
Address	
VLT device model details	
Address of VLT production center	
Contact Person details (If different from undersigned)	

In relation to our application, DTPB may also note the following:

1. Our application is unconditional and all information provided in the application is true and correct.

- 2. We hereby declare that the VLT device(s) being submitted for registration complies with the specifications as set out in the enlisting process document and we shall make available any additional information as DTPB may find necessary as required for clarification.
- 3. We acknowledge the right of DTPB to reject our application without assigning any reason and accept the right of DTPB to cancel the enlistment process at any time without incurring any liability to the registered Manufacturers.
- 4. We confirm that we are not blacklisted by any state government or central government/department/ agency in India from participating in bids for last three financial years.
- 5. We agree to keep the quality of the registered VLT models and support the customers whenever required.
- 6. We confirm that we will train all the RFCs to distribute the certified VLT models of our products.
- 7. We confirm that we will share all details the RFCs i.e. Name, Address, email, Helpline no, technicians etc. with DTPB as and when appointed.
- 8. We confirm that we will maintain privacy of all data related to VLT device/owner/vehicle.

Sincerely,

(Signature, name and designation of the authorized signatory) (Contact no. including, phone no., fax, email and contact address)

## Annexure - B. List of Submissions/documents

Annexure - C.

### List of Submissions for Manufacturer

### 1. Details of the VLTD Manufacturer

- a. Name of the Company
- b. Place of Incorporation
- c. Date of Incorporation
- d. Address of Head Office/ branch offices, if any
- e. Details of VLT devices manufacturing facilities (also mention whether owned or contracted its capacity, third party etc)
- f. Certificates of agencies, manufacturing facility (like ISO, CE etc)
- g. Brief description of the Company including details of its main lines of business.
- h. Details of production facilities (area, machinery, manpower, production capacity).
- i. Website details /URL
- j. Particulars of the authorised signatory of the Company including name designation, address, phone no, mobile no, fax and e-mail

# 2. Documents in support of compliance of the Manufacturer with regard to criteria mentioned in this document.

- a) Certificate of Incorporation issued by the competent authority with copy of registration documents.
- b) Address of manufacturing unit.
- c) Demand Draft towards the Application fee.
- d) Demand Draft towards Performance Bank Guarantee (when enlisted)
- e) Statement of Compliance reports.

 f) Two sample VLT devices with related documents ( with device brochures; Do"s and Don"ts; user manuals; device protocol(s)/API documents explaining all the messages, fields and their values; other certifications for VLT devices standard"s compliance and eSIMs and their details)

Any other terms & conditions mentioned in this document.

## Annexure - D. Terms and Conditions Governing Enlistment

Annexure - D.

### Terms and Conditions Governing Enlisting

- 1. Commercial arrangement of VLTs between Manufacturers and Vehicle **Owners** Any commercial or other arrangements/ agreements between the enlisted manufacturer and the vehicle owners (customers) shall be as mutually agreed between them. The price of the certified VLT device and all other terms and conditions including those related to warranty, AMC, nature of service etc shall be as mutually agreed by and between the Manufacturer and the vehicle owners. DTPB have no role, responsibility and liability in relation to the same.DTPB may ask Manufacturers to share List of their enlisted devices and their MRP for publishing on the website of the Department.
- 2. Response Time If any complaint is raised against the installed VLT device, then the concerned enlisted manufacturer/ RFC should resolve the complaint as per guidelines for implementation mentioned in the document.
- 3. Monitoring and Audit Once the enlisted manufacturer/ RFC is authorised/ approved, DTPB shall have the right to monitor/audit the certified VLT devices installed in the Vehicles and the service and support provided with a view to ascertain their continued compliance with the terms and conditions governing the registration.
- **4. Cancellation of enlistment** If any fault is found or any complaint received from end user customers, then DTPB shall take actions against the enlisted

manufacturer and their RFC and have the right to suspend or cancel the enlistment/enlisting issued to that particular VLT model.

- **5.** Liability Enlisted AIS-140 VLTD manufacturer and their RFC shall be liable and responsible for performance of the VLT devices supplied to the Vehicle owners.
- 6. Jurisdiction Any issues related to enlistment of VLT or licensing of agencies are governed by the laws established in India and competent to deal with disputes, if any, arising out, the Hon'ble High Court of Punjab in Chandigarh alone have jurisdiction to lay any matter relating to this registration.
- **7. Dispute** In case of any dispute related to technical (operational testing), the decision of DTPB shall be final and binding.
- 8. Use of Trademark/ Logo of DTPB Manufacturer shall not use the DTPB logo or any other trademark, symbol, or icon on or in connection with the enlisted VLTD Devices or any of the manufacturers VLT devices including those on its packaging, manuals, promotional and/or advertising materials, or for any other purpose without an express written permission from DTPB.
- 9. Notice Any notice or other communication to be given by a party to the other under, or in connection with the matters contemplated by or under the enlistment shall be in writing and shall be delivered by hand/ registered post/ courier at the notified address of the party concerned.

### Annexure - E. Bank Guarantee Format for Performance Security

### Bank Guarantee Format for Performance Security Beneficiary: State Transport Commissioner, Punjab

Date:....[InsertdateofissueofBG].....PERFORMANCEBANKGUARANTEENo.:...[Insertguaranteenumber]...PERFORMANCEBANKGUARANTEEAmount:...[Insertguaranteeamount]...

Manufacturer:...[InsertmanufacturerNameandAddress]/Guarantor:...[Insert name and address of the issuing Bank]...

1. The Manufacturer named above has entered into above referred contract with the beneficiary, for the supply of VLT and / or Services as defined in the said VLT manufacturer enlistment. According to the conditions of the VLT manufacturer enlistment, a performance security is required to be furnished by the manufacturer to the beneficiary for due performance of the contract.

2. At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of Rs 20,000,00/- (Rupees twenty lakhs only), upon receipt by us of the Beneficiary's demand stating that the manufacturer is in breach of its obligation(s) specified in the enlisting document, without the beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

3. We do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the beneficiary / Government. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs of 20,00,000/- (Rupees twenty lakhs only)

4. We undertake to pay the Government any money so demanded not withstanding any dispute or disputes raised by manufacturer in any suit or proceeding pending before any Court or Tribunal relating thereto liability under this present being absolute and unequivocal.

5. The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the manufacturer shall have no claim against us for making such payment.

6. We further agree that the Guarantee here in contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract including Guarantee/ Warrantee period and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

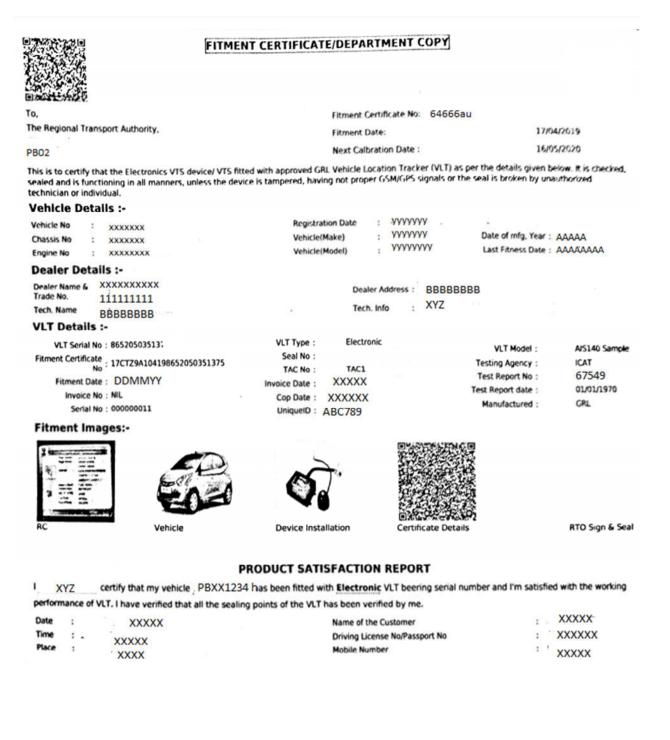
7. We further agree with Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and condition of the said Contract or to extend time of performance by the said Manufacturer from time to time or to postpone any time or from time to time powers exercisable by the Government against the said manufacturer and to forbear or enforce any of the terms and condition relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or only extension being granted to the said manufacturer or for any forbearance, act or omission on the part of the Government or any indulgence by the Government to the said manufacturer or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

8. Notwithstanding anything contained herein above our liability under the Guarantee is restricted to Rs. .....and shall remain in force until ......
9. This Guarantee will not be discharge due to be change in the constitution of the Bank or the manufacturer.

**10.** We lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Government in writing.

Dated..... For..... (Indicate the name of the Bank ) Signature..... Name of the Officer ..... Designation of the officer..... Code no..... Name of the Bank and Branch....

### Annexure - D. Sample format for certificate



-----End of Document-----