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1. Unpriced Bid Format

SUPPLY ITEMS

S.No.	Description	Quantity	Units
1	Supply of Namur sensors (Kat-Lax/Equivalent make after taking HPC's approval), of voltage 8.2 volt current 4- mA (L1D1 M 18 X 30 – SS 304 barrel with 6.2 meter X 2 core cable. a) Upto 4 + 1 Sensors b) Upto 5 + 1 Sensors The system should be covered under one Year Warranty.	5000 1000	Nos. Nos.
2.	i. Supplying new VMU boxes with GPS & GSM antennas) along with proper mounting brackets & suitable for GPS tracking and seal monitoring system with provision for in built GSM antenna & GPS antenna with provision for connection to proximity sensors installed in dome cover and gate valve box. The box will have inbuilt standby battery as per attached specs. The job includes making box 100% sealed & tamper proof with sufficient pop rivets and to provide on line signal when top cover is open, box confirming to IP65 For M&R purpose system should be divided into four units; 1. Power supply with filter. 2. GSM / GPRS card. 3. Controller with GPS card. 4. Sensor card.	2300	Nos

3. Party to arrange for supply of following spares of reputed brands to various locs. as per HPC's requirement & tender conditions. The details are given below :

	Quantity	Unit
a) GSM Antenna	100	Nos.
b) VMU PCB	10	Nos.
c) Material cost for battery cable and Conduit	100	Nos.
d) Proximity Sensors	50	Nos.
e) Battery (auxillary)	10	Nos.
g) SIM card Tray	10	Nos.
h) Keypad module	10	Nos.
i) Power supply with charger	10	Nos.
j) GPS Antenna	500	Nos
k) Mounting brackets for pipes	120	Nos
k) 20 mm dia flexible Pipe x 6 mtr x 1.5 mm thickness –	10	Nos.
l) 12 mm dia flexible Pipe x 6 mtr x 1.5 mm thickness-	10	Nos
m) 20 mm dia GI. Pipe x 6 mtr (including brackets), B Class Pipe	10	Nos.
n) MS Brackets for holding 20/12mm dia pipes.	120	Nos.
o) Teflon Bush for holding sensor.	100	Nos.
p) Steel Bracket for VMU on dash board.	10	Nos.
q) VMU cost including Battery, battery connector etc	10	Nos

B -WORKS ITEM

S.No.	Description	Quantity	Units
1	<p>Re-fitting of dismantled VMS system consisting of tracking units, antenna and seal monitoring system. The job scope includes;</p> <ul style="list-style-type: none"> ii. Installation of refurbished * VMU unit on dash board of the vehicle along with proper mounting brackets (atleast 1” above dashboard.) iii. Latching of SIM in the VMU box. iv. Supplying & Fitting GPS antenna on the top of cabin, facing the sky. The job includes connecting to VMU with cables thru flexible pipes. v. Making power connection to VMU box from battery/ignition switch with cable & lugs etc vi. Comprehensive maintenance of the installed system for one year. Including all spares. The job includes monthly checking of trucks for preventive system & attending breakdown job within 4 days. <p>*Refurbishing of VMU, which includes : providing pop rivets fixing VMU box cover, closing all the openings of the box with steel plate of same material and providing necessary plug and socket for making the box tamper proof. Provision to be made for SMS alerts when cover is open.</p> <p>The job includes testing and commissioning of system after integrating with existing Software system in format attached at annexure and also ensuring that the system is tracked on- line alongwith seal monitoring system.</p> <p>Note : Details of location are given in the attachment. The details of TTs would be given by locations.</p>	1000	No of TTs
2	<p>The job covers installation of Nemur sensors in the sleeve of dome extended box along with 10mm Teflon bush and locking same with araldite. The job includes providing and fixing necessary pipes, flexible pipes ,brackets, fixtures for installing the sensors as per detailed specs. given in the specs. area of tender. (Diagram enclosed for dome cover).</p> <p>i) Providing and fixing G.I. Pipe (B Class)</p>		

	<p>with brackets welded to TTs, for connecting sensors from dome covers thru G.I. Pipe running thru the length of the truck along with the coupler. including perpendicular connection from dome cover and fixing with brackets welded to TT, (to ensure zero movement of the pipe). The same should be tamper proof. The sensors cable to be connected to VMU unit thru fir. GI pipe B Class (12 mm & 20mm) along, with maximum 12 brackets made up of 6 mm thick steel plate and of 60 mm width and 130 mm length.</p> <p>ii) Flexible Pipe to be linked to VMU thru coupler which will be threaded and locked inside box with check nut.</p> <p>iii) The party should provide and install all T bend couplers etc.</p> <p>a) Upto 4+ 1 Sensors b) Upto 5 + 1 Sensors</p> <p>The system should be covered under one Year Warranty. The party should arrange to Replace sensors within 4 days & penalty of Rs.100 per day per truck would be charged after 4 days if not attended.</p>	5000 1000	
3	<p>Party to install VMU box along with GPS antenna, with flexible pipe & link to VMU unit.</p> <p>The job is to be completed as per the details specifications given the attached technical specifications.</p> <p>Provision to be made for sending alerts to concerned personnel when VMU cover is open. Job also includes latching the SIM with VMU in the field and configure the truck in line with the existing software as per existing frame format attached. The job includes fitting VMU box on dashboard with MS plates & brackets etc.</p> <p>Note :- Details of location along with number of TTs are given in the attachment</p>	2300	Nos
4	<p>To provide and carry out comprehensive Annual Maintenance Contract after 1 year warranty period for VMS system. The job includes providing necessary items like ss sensors, antennas, broken pipeline, electrical connections and other fittings etc., except providing new VMU box. The job includes</p>		

	<p>helpdesk / web support / e-mail support / generation of periodic report, alerts and MIS reports, software updates and site visits as and when required.</p> <p>This excludes if the equipment is tampered and damaged. The job includes monthly checking of trucks for preventive system & attending breakdown job within 4 days. The party to arrange sufficient manpower at zone / locations to carry out job during warranty as well as AMC period</p> <p>The party to arrange manpower at location & maintain sufficient spares inventory at locations.</p> <p>(a) 1st year AMC (b) 2nd year AMC</p> <p>* Charges quoted towards AMC will be considered for evaluation. However, separate PO will be placed after completion of defect liability period.</p>	6000 6000	
5	<p>Providing & Refurbishing old VMU box : -Old VMU box up gradation including dismantling & refitting top cover with pop rivets & providing adopters along with closure of opening by sheet material with sheet. metal of 1.5 mm thickness including providing rivets.</p>	3500	Nos.

C Service Items

1	<p>Dismantling & removal of existing VMS system from the TT. The job scope includes;</p> <ol style="list-style-type: none"> Removal of VMU unit including SIM card after opening the box. Remove flexible pipe including wires linked to the antennas. Removal of GPS and GSM antenna along with cable with proper care. Dismantle and remove 4 to 6 proximity sensors from dome covers and gate valve box of the TT. The job includes removal of cable, G.I. Pipes etc. Amending and updating the records in the software system after dismantling the VMU unit. Party to arrange moving of items to the safe place inside depot as directed by the authorized person. <p>Note: Details of location are given in the attachment. The details of TTs would be given by locations.</p>	1000	Each
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2	Generation of daily reports for each location & to be sent to locations, R.O., Zone, & HQO by email on daily basis. Charges to be quoted for contract period for 3 year period. The number is for 3 years period.	216000	Nos
3	Interfacing the VMU system with existing vendor software for Vehicle Management System and ESMS system with reporting facilities. The job includes latching of SIMs with VMU in the field and configure the new truck number with software.(Frame format given in the attachment)	300	Trucks
4	Geo fencing survey of additional routes, customize to indicate depots,(new/resited) outlets and other key landmarks. Job will include physical survey to accurately map designated valid route from depots to retail outlets. The job has to be carried out based on the actual requirement of various depots across the country, as and when required here in India.	20000	Kms.
5	Shifting of dismantled VMU system & other items including antennas ,sensors etc from one depot to other depot after packing the same into thermocol boxes and other material. Party should quote for services for packing, forwarding and receiving at location. Party will be paid actual transportation charges or courier services against the documentary proof for transportation, octroi, & insurance charges etc., on actuals separately. Necessary road permits will be issued by concerned location.	500	Trucks

Note :

- 1) Company at its discretion may split the jobs further in addition to allotment of jobs on 60:40 basis.
- 2) Penalty of **Rs.100 /- per truck per day** shall be charged for non repair of the vehicle beyond 4 days (from 5th day onwards) of intimation of the complaints during warranty as well as AMC period.

BID QUALIFICATION CRITERIA (BQC) FOR DISMANTLING, REFITTING AND INSTALLATION OF VMS TRACKING SYSTEM ALONG WITH ELECTRICAL SEAL MONITORING SYSTEM

(A) Bidders shall meet all the Criteria given hereunder in Clauses 1.0, 2.0, 3.0 & 3.1

1.0 Financial :

Annual Turnover: shall meet the minimum prescribed pre-qualification requirement as follows:

Annual financial turnover, as per audited profit & loss account, in any of the last three financial years ending March 09 shall be at least **Rs. 3628 Lakhs**. For the vendors following financial year closing at the end of March'2009, the last 3 financial years ending with the respective quarter of 2008 will be considered.

2.0 Technical :

- 1) Applicant should have experience of having successfully completed similar work (**Similar work means Vehicle tracking with seal monitoring system**) amounting to **Rs.100 lakhs** during last 7 years ending 31st March 2009.

Definition of “Similar Works” :

Experience of the tenderer in providing and installing complete GPS based vehicle tracking system with **seal monitoring system in any liquid industry/ sector. Without experience in seal monitoring system, vendor's offer would not be considered. Party should also submit CCOE approval for the complete system being offered.**

Demonstration: The tenderer meeting above qualifying parameters will have to give a live demonstration of VMS (Vehicle Management & Seal Monitoring System) equipment to HPCL, on a vehicle at their own cost, and get data recorded in demo website of tenderer to show their technical capability. This successful demonstration is must for technically qualifying for the tender. Also party has to provide CCOE approval at the time of tech bid submission/along with his unpriced bid.

Experience of carrying out similar works.

The experience / performance of Vendor in implementation of similar works, with satisfactory completion/ performance certificates from the clients must be provided. Documentary proof in support of the above should include:

- a) Copies of work order(s)/contract(s)/agreement(s) and work completion certificates.
- b) Submission of Explosive approval certificate for GPS&GPRS vehicle tracking including seal monitoring system.
- c) If the documents are in language other than English, then Translated (in English) copy/copies of the work order/contract(s)/agreement(s)/work completion certificates duly Notarized must also be submitted.

Please note above details must indicate the date of start and date of satisfactory completion of work(s).

The applicant shall be a Supplier / Manufacturer of Vehicle Tracking System along with Electrical Seal Monitoring System based in India. The applicant should have CCOE approvals for the system.

(B) Information/Documents required along with Application:

- 1) Title, style and postal address of the firm.
- 2) Communication particulars including telephone numbers, fax numbers and e- mail address.
- 3) Following documents are required to be submitted as proof of meeting pre qualification criteria [Clause no. A (1.0) (Financial)] :
 - (a) Notarized copies of audited Annual Reports / Balance sheet and Profit & Loss account for the financial year ending June'07 / September '07 / December'07 / March '08.
- 4) Following documents are required to be submitted as proof of meeting pre qualification criteria [Clause no. A(2.0) (Technical) and Clause no. A(3.0) & A(3.1)]
 - (a) Notarized copy or original Purchase/work Order /certified bills from client/owner / project consultants along with their completion certificate/proof of delivery. The Purchase/work Order and completion certificate/ proof of delivery should mention the details of supplies carried out by the applicant so as to enable us to identify whether the applicant meets the technical criteria stipulated above or not.
 - (b) Any other document certified by the owner/client (for whom the job has been executed) specifically having mention of the jobs carried out in support of meeting the technical criteria stipulated above.

The Applicant shall be in a position to furnish the original documents towards copies submitted in respect of Clause No. A(1.0) (Financial) & Clause No. A(2.0) (Technical) and Clause no. A(3.0) & A(3.1) as & when required and asked to produce during the process of evaluation.

C. OTHER INFORMATION

1.0 Parties who are affiliates of one another can decide which Affiliate will make a bid. Only one affiliate may submit a bid. Two or more affiliates are not permitted to make separate bids directly or indirectly. If 2 or more affiliates submit a bid, then any one or all of them are liable for disqualification. However up to 3 affiliates may make a joint bid as a consortium, and in which case the conditions applicable to a consortium shall apply to them. "Affiliate" of a Party shall mean any company or legal entity which:

- (a) Controls either directly or indirectly a Party, or
- (b) Which is controlled directly or indirectly by a Party; or
- (c) Is directly or indirectly controlled by a company, legal entity or

Partnership which directly or indirectly controls a Party. "Control" means actual control or ownership of at least a 50% voting or other controlling interest that gives the power to direct, or cause the direction of, the management and material business decisions of the controlled entity.

2. Bids may be submitted by:
 - a) A single person/ entity (called sole bidder);
 - b) A newly formed incorporated joint venture (JV) which has not completed 3 financial years from the date of commencement of business;
 - c) A consortium (including an unincorporated JV) having a maximum of 3 (three) members;
 - d) An Indian arm of a foreign company.
3. Fulfilment of Eligibility criteria and certain additional conditions in respect of each of the above 4 types of bidders are stated below, respectively:
 - a) The sole bidder (including an incorporated JV which has completed 3 financial years after date of commencement of business) shall fulfil each eligibility criteria.
 - b) In case the bidder is a newly formed and incorporated joint venture and which has not completed three financial years from the date of commencement of business, then either the said JV shall fulfill each

eligibility criteria or any one constituent member/ promoter of such a JV shall fulfil each eligibility criteria. If the bid is received with the proposal that one constituent member/ promoter fulfils each eligibility criteria, then this member/promoter shall be clearly identified and he/it shall assume all obligations under the contract and provide such comfort letter/guarantees as may be required by Owner. The guarantees shall cover inter alia the commitment of the member/ promoter to complete the entire work in all respects and in a timely fashion, being bound by all the obligations under the contract, an undertaking to provide all necessary technical and financial support to the JV to ensure completion of the contract when awarded, an undertaking not to withdraw from the JV till completion of the work, etc.

- c) In case the bidder(s) is/are a consortium (including an unincorporated JV), then the following conditions shall apply:
- 1) Each member in a consortium may only be a legal entity and not an individual person;
 - 2) **The Bid shall specifically identify and describe each member of the consortium;**
 - 3) the consortium member descriptions shall indicate what type of legal entity the member is and its jurisdiction of incorporation (or of establishment as a legal entity other than as a corporation) and provide evidence by a copy of the articles of incorporation (or equivalent documents);
 - 4) One participant member of the consortium shall be identified as the “Prime member” and contracting entity for the consortium;
 - 5) This prime member shall be solely responsible for all aspects of the Bid/ Proposal including the execution of all tasks and performance of all consortium obligations;
 - 6) The prime member shall fulfil each eligibility criteria;
 - 7) a commitment shall be given from each of the consortium members in the form of a letter signed by a duly authorized officer clearly identifying the role of the member in the Bid and the member’s commitment to perform all relevant tasks and obligations in support of the Prime/lead member of the Consortium and a commitment not to withdraw from the consortium;
 - 8) No change shall be permitted in the number, nature or share holding pattern of the Consortium members after pre-qualification, without the prior written permission of the Owner.
 - 9) No change in project plans, timetables or pricing will be permitted as a consequence of any withdrawal or failure to perform by a consortium member;
 - 10) No consortium member shall hold less than 25% stake in a consortium;
 - 11) Entities which are affiliates of one another are allowed to bid either as a sole bidder or as a consortium only;
 - 12) Any person or entity can bid either singly or as a member of only one consortium.
- d) In case the bidder is an Indian arm (subsidiary, authorized agent, branch office or affiliate) of a foreign bidder, then the foreign bidder shall have to full fill each eligibility criteria. If such foreign company desires that the contract be entered into with the Indian arm, then a proper back to back continuing (parent company) guarantee shall be provided by the foreign company clearly stating that in case of any failure of any supply or performance of the equipment, machinery, material or plant or completion of the work in all respects and as per the warranties/ guarantees that may have been given, then the foreign company shall assume all obligations under the contract. Towards this purpose, it shall provide such comfort letter/guarantees as may be required by Owner. The guarantees shall cover inter alia the commitment of the foreign company to complete the entire work in all respects and in a timely fashion, being bound by all the obligations under the contract, an undertaking to provide all necessary technical and financial support to the Indian arm or to render the same themselves so as to ensure completion of the contract when awarded, an undertaking not to withdraw from the contract till completion of the work, etc.

2. Third Party Inspection Report Format

<u>SR No</u>	<u>Item</u>	<u>Remark</u>
1	Physical Condition of VMS	
2	GSM Antenna	
3	GPS Antenna	
4	Connection to Battery	
5	Condition of pipe	
6	Condition of sensors in dome cover	
7	Condition of sensor in gate valve box	
8	Online live tracking of vehicle	
9	Online tracking of previous day	
10	Whether seal position matching with actual physical position	
11	Whether LED working on VMU box	
12	Whether wiring is intact all around	
13	Whether Teflon washer provided.	
14	Whether system is being tracked	

3. VEHICLE MANAGEMENT & SEAL MONITORING SYSTEM FOR DEALER / CONTRACTOR OWNED TANK TRUCKS FOR HPCL LOCATIONS ALL OVER INDIA

INTRODUCTION

HPCL has installed Vehicle Management System & seal monitoring system for their dealer /contractor owned petroleum tank trucks which facilitates monitoring of tank truck movement from the loading depot / terminal to the retail outlet and back on real time basis including two way communication (**data/voice**). An integrated Seal Monitoring System is provided which tracks the place & time of opening of the dome covers / gate valve box of the tanker on real time basis and communicate with the control base stations, forming part of the Vehicle management System Server.

HPCL has already implemented VMS for their fleet of company owned, Dealer Trucks & Transporters trucks for MS (petrol), HSD (diesel) and dealer owned SKO (kerosene) tank trucks .

The successful vendor(s) is/ are required to carry out following jobs

A)Dismantle the existing VMS system from outgoing POL TTs , The job includes removal of the total system including antennae , GI pipes, flexible pipes wires, proximity sensors VMU units i.e. without damaging the equipment /TT .

B) Reinstall dismantled system which includes VMU unit on dash board with brackets, fixing GPRS & GSM antennas taking wires through flexible pipes & connecting to VMU units. The job includes sealing VMU box with 1.5 mm plates & making it tamper proof by suitable rivets. Integrate the system with the existing VMS system(s) to present a common interface to the user.

C) To provide & install new VMU boxes including standby batteries including GPS/GSM antennae & install the same in driver cabins. Or The job includes modification of VMU boxes to make it tamper proof conforming to IP 15 & fitted box with suitable pop rivets .Further antennae are to be connected to VMU box thru concealed wires & powered from TT battery or to ignition switch with lugs & concealed wiring.

D) To provide only steel body sensors in a sleeve & fix with suitable Teflon washers in the dome covers. The copy of dome cover drawing is enclosed for reference.

The system shall consist of the following major elements:

1. A Vehicle Mounted Unit (VMU) in each truck, carrying a mobile tracking unit.
2. Seal Monitoring System in each truck, with suitable technology and hardware for Seal Monitoring System and interfacing the same with the VMU. (Tankers may have 3, 4 or 5 compartments and gate valve box. One set of Seal Monitoring System shall mean sensors for all top dome covers and one bottom valve enclosure along with related wiring etc.)
3. A GSM/ GPRS cellular network in operation.
4. A Vehicle Management System (VMS) Server (provided by HPCL) which houses one or a series of Control Base stations which in turn receives the location information from the tank

trucks spread across the country. The information from Tank Trucks is also to be obtained through port connectivity with GSM/GPRS service provider.

5. A Web Server connected to the above VMS Server to host it on the Intranet/ Internet so as to access the application over the Intranet/ Internet also manufacturing & installing.
6. The party has to arrange for third party inspection for testing the system hardware & online tracking at his cost.

The product loading centers / controlling offices spread all over India should be able to access the system over the HPCL Intranet /Internet so as to monitor the movement & sealing system of the fleet of trucks from a particular loading point to the retail outlet / customer and back on real time basis.

The detailed specifications are mentioned in subsequent pages.

In case of any clarifications, same may be obtained from

- 1) Sr. Manager–Facilities Planning, Shri R.K. Bhatia, Tel No. 022-22637109
bhatiark@hpcl.co.in

OR

- 2) Manager-IT (P&P), Shri Surinder Kumar Singh Tel No. 022- 22637123,

Address :

First Floor, Hindustan Bhavan, 8, Shoorji Vallabhadas Marg, Ballard Estate, MUMBAI – 400 001 .

A. SPECIFICATION OF VEHICLE MANAGEMENT SYSTEM

The Fleet / Vehicle Management System should meet the following Requirements:

Vehicle Management System will host on a Central Server, which will constitute a Vehicle Management System (VMS) Server with a Web Server (Provided by HPCL). The series of base station(s) that receive the location information from the Tank Trucks spread across the country will be connected with this central VMS Server. The information from Tank Trucks may also be obtained through port connectivity with GSM/GPRS service provider. The central sever may be located at HPCL HQO in Mumbai or the respective 7 Zonal Offices (Mumbai/ Delhi/ Kolkata/ Chennai/ Hyderabad /Ahemdabad / Lucknow).

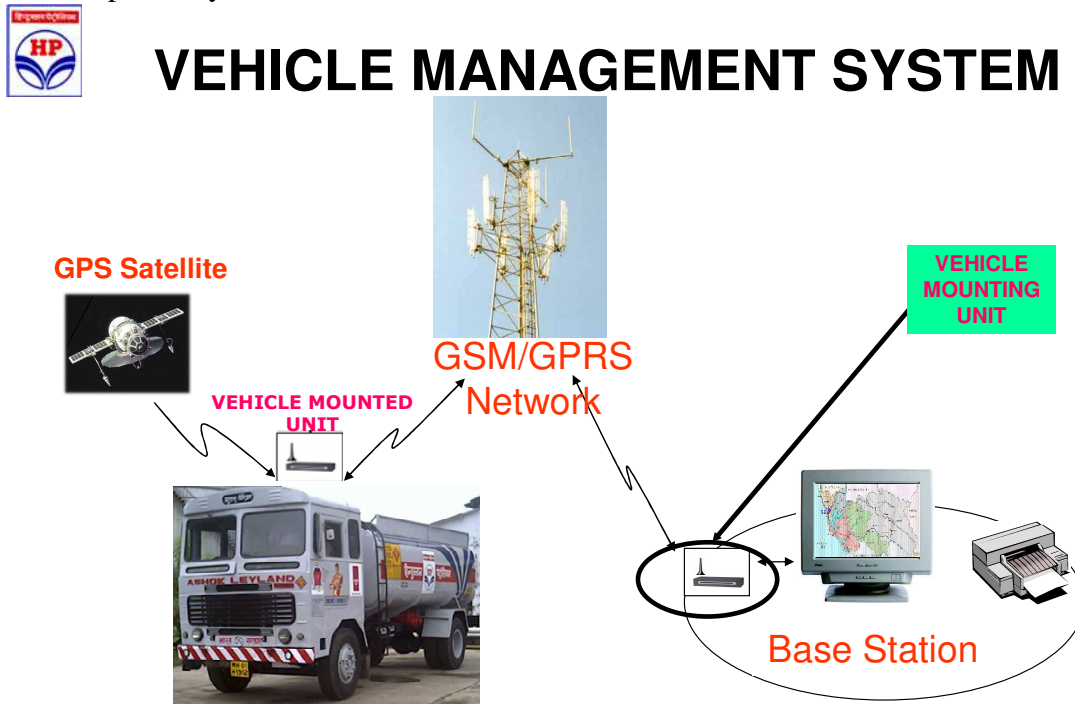
The server is a part of HPCL intranet.

Approved software in use are as under :-

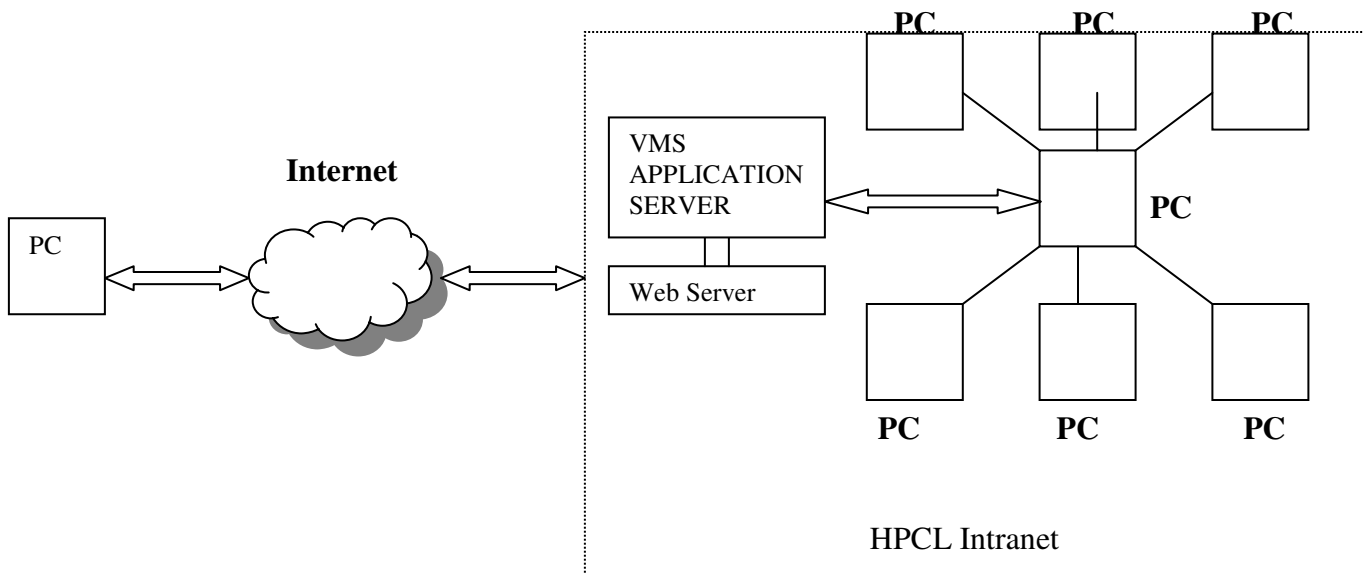
1. Operating System – Windows 2003 server/ Redhat Linux (HPCL provided)
2. RDBMS (Relational data base mgt. system) – Oracle 9i/ 10g / MS SQL Server (HPCL provided) / MySQL / PostgresSQL

System(s) having one or more combinations(s) of above Operating System/ RDBMS is available. Vendor shall be required to integrate their system to the existing system(s).

The Proposed System Architecture is as follows:



Vehicle movement is identified over area maps through Global Positioning System (GPS) and Global System for Mobile (GSM) to base computer.



The Vehicle Management system should meet the following Requirements:

Vehicle Management Software Application

The application is being run on a Windows 2003 / Linux server. The client end would be a Web Browser (client machine: Windows 98/XP with Internet Explorer). The application is delivered via HPCL's Intranet and Internet. The software provides for an authentication system to allow for role based system access based on the requirements and level of the user. The typical levels of users are:-

1. Retail Outlet Operator
2. Transporter
3. Depot Operator
4. Depot Officer / Manager
5. Regional Manager
6. Zonal Manager
7. HQO officer/ manager

The database/ application should be so designed as to facilitate integration to HPCL's ERP / Supply Chain Management system in future using suitable platform.

Note: Supply of VMS application software is not in vendor's scope. However, the proposed system is required to be integrated with the existing VMS software being used by HPCL. The interface software provided should have simple menu-driven user interface. The details are given in attachment.

The broad features of the system include:

1. Tracking and Tracing of a vehicle (tanker lorry) along with seal status on Real Time basis.
2. The location information of the vehicle to be obtained using Global Positioning System (GPS) with min. 5 meters accuracy.
3. Two way data communication between the Vehicles and the Base Station Unit at the Control Centre using GPRS /Short Messaging Service (SMS) over a Global System for Mobile (GSM) communication Network for Data transfer. Data may also be obtained through port connectivity with GSM/GPRS service provider over internet cloud.
4. The system should be able to work on a GPRS network, with option to fall back upon SMS messages wherever GPRS is not available. Configurable option for selecting SMS or GPRS should be available on the VMU or software..
5. Location of a vehicle to be displayed on a **Digitized GIS Map** (Vector Maps) on the client machines.
6. The system should facilitate sending and receiving messages to the Vehicle Mounted Unit.
7. Adequate security measures should be built into the database/ application to prevent unauthorized access and data tampering.
8. The GIS layer of the application have Digitized Road maps covering the entire delivery area pertaining to each depot/ terminal with retail outlets of HPCL as well as other oil companies and other prominent landmarks plotted.
9. The application have a Geo fencing module to define designated routes for the Tank Trucks. The standard routes shall be geofenced with geocoding of all important landmarks including retail outlets of all oil companies enroute. The application should generate exception reports/ alerts in the event of deviation from the defined routes. Note: As most of the routes have already been geo fenced as a part of earlier tender(s), as a part of this tender, vendor will be required to geo fence any additional routes which may come up subsequently.
10. The GIS layer should have a provision to show geo-fenced route in a different colour, colour-coded icons appearing on the maps to indicate HPCL's retail outlets, Depots and other specified sites and prominent landmarks.
11. The Vehicle Management System should be capable of interfacing to HPCL's ERP and Supply Chain Management Application.
12. The Vehicle Management System shall integrate with the existing VMS system(s) being used by HPCL.
13. The System shall be able to provide web access to the owners /authorized representatives of contractor / dealer trucks to monitor the relevant truck and trip data and generate reports.
14. The system shall provide log of administrative actions (user creation/ modification/ deletion) and log of user logins/ duration etc.
15. Data entry screens for entering Truck Details, Trip Data viz. Truck no., Destination, Qty. etc.
16. The software/ database design shall be scalable and will support existing and newly added vehicles as and when required.
17. User (administrator) interface to add, modify, delete vehicles and locations and their details in the database.

Vehicle Mounted Unit

1. Suitable to be fit into the driver's cabin particularly dashboard of the vehicle. Must be a rugged enclosure suitable to Indian conditions. The VMU box shall be tamper proof like

- cover to be fitted to box with pop rivets, water and dust resistant, conforming to IP65 or better.
2. Should operate from the 24V battery of the Vehicle. An additional power pack (12 V SMF battery) shall be provided by the vendor as auxiliary / standby power supply.
 3. Should facilitate GPRS data communication and SMS (e.g. every 1 minute).
 4. Should have LEDs indicating Power On, GPS Services, GSM/ GPRS Services and System Health.
 5. The GPS and GSM/ GPRS antenna Modules should be temper proof & protected in weather proof enclosures, and be detachable for easy maintenance.
 6. Over the Air Programmable Positional Data Acquisition and Transfer Rates shall be possible
 7. Configurable Vehicle ID.
 8. Provision to Store Positional Data in GSM Dark zones for future transmission once the vehicle enters a GSM coverage Area. (Min. storage for 3 days).
 9. On the VMU, one switch shall be provided for sending a predefined SMS to predefined no. The Vehicle Mounted Unit should have an analog / digital interface port to monitor analog parameters or events on the Vehicle. (This interface can be used to integrate the Seal Monitoring System). There shall be one spare serial port for any future use.
 10. The VMU configuration utility (software) along with one set of cables etc. shall be supplied. The VMU shall be configurable through a PC. Administrator should be able to add/modify/delete basic configuration parameters of VMU. Vendor shall also provide API or communication protocol used to communicate between the VMU and base station software.
 11. Message on Halt for Configurable Halt duration.
 12. Start message on start.
 13. Ask and get Location Query interface
 14. 12 V /24 V DC compatible power supply.
 15. 32 bit Micro processor based circuit; **processor speed minimum 36 MHZ**

Hardware VMU Features:

- Suitable to be fitted in the driver's cabin of vehicle on dash board with bracket .
- Operating voltage Starts from 8V to 30V DC
- System Indicator Led to Indicate GSM, GPS, and System Health.
- Provisional of storing data up to 3 days incase of GSM grey area.
- Over the Air Programmable positional data acquisition and transfer rates.
- Configurable Vehicle ID.
- 4 Switches to transmit predefined SMS message.
- Message on halt for configurable Halt duration.
- Start Message on Start.
- Integration of Seal Pilferage system.
- GPRS data transfer between the Vehicle Mounted unit and the Base station server
- In case of GPRS connection fails then data transfer will be through SMS every 30 minutes.
- Tamper proof in built GSM & GPRS antenna. preferable
- Tamper proof Box & pop riveted.

- Alert on opening of VMU unit box
- SIMCARD should not be removable easily and alert on SIMCARD removal.
- Water proof and Dust proof enclosure.
- 3 Digital inputs and 3 analogue inputs
- 32 bits Microprocessor based circuit & min microprocessor speed of 36 MHZ
- Controller to be in power saving mode in Vehicle idling position.
- Configurable Upload frequency 10 sec to 60 Sec for GPRS
- Provide inter face for GPS ,GSM ,PC ,Message switches & Status indicators
- Programming connectors to change firmware anytime
- Configurable upload frequency thro SMS in absence of GPRS 60 sec to 1 hour.
- Extra serial port to connect any devices and to the computer. .
- Seal Pilferage System
 - Stainless Steel based NAMUR Sensor
 - When the Sensor is broken then Alert has to be generated.

Note :-- VMU should go in sleep mode (No data to server) if vehicle is ideal for more than half an hour for power saving of vehicle & Pick up signal immediately for any exception data including seal status for sending to server .

Alerts should be sent whenever VMU box is opened

Specifications

GPS RECEIVER :

Make	Falcom or Global Sat
Chipset	SIRF Star
Frequency	L1 1575.42MHz
C/A Code	1.023 MHz Chip rate
Channels	20 Channel all in view tracking
Sensitivity	-159dBm
Operating Temperature	-10 Deg.C to 55 Deg.c.

Accuracy

Position	5 mts,2DRMS,WAAS enabled
Velocity	0.1 m/s
Time	1 us synchronized to GPS time
Channels	20 Channel all in view tracking
Default	WGS-84

Acquisition Time

Reacquisition	0.1 sec average
Hot Start	1 sec average
Warm Start	38 sec average
Cold Start	42 sec average

Dynamic Condition

Altitude	18000 mts,(60000 Ft)Max
Velocity	515 mts/sec (1000Knots)Max
Acceleration	Less than 4g
Jerk	20m/sec**3
Positive upgrade rate.	1 sec.

Global Positioning System (GPS) Antenna Specification (collecting latitude/longitude from satellite) :

Frequency	1575.42+2 MHz
Axial Ratio:	3Db Typical
O/P Impedance	50 Ohm
Polarization	RHCP
Amplifier	20 26Db Typical
O/P VSWR	2.0 Max
Noise Figure:	2.0Db Max

GSM / GPRS Module Specification

Frequency Bands-

Make	SIEMENS MC55 or WAVE COM
GSM Band	EGSM900,DCS1800,PCS1900
Transmit Power	Class 4 (2W) at EGSM 900 Class 1 (1W) at DCS1800 and PCS 1900
GPRS Mobile Station	Class 10,Class B
Audio Features	Speech Codec modes
	half rate (ETS 06.20)
	Full rate (ETS 06.10)
	Enhanced Full rate (ETS 06.50/06.60/06.80)
	Echo Suppression
SIMCARD Interface	3 V

GSM / GPRS (General Packet Radio Service) Antenna Specification

Frequency	Triband 900,1800,1900
O/P Impedance	50 Ohm
Amplifier	20 26Db Typical

VMU Specification requirement

32 bit Microprocessor based circuit that provides interface for GPS, GSM, PC, Message Switches and Status Indicators.

Electrical Characteristics:

Description	Rating
Power Supply	8 to 30 V DC
Output voltage 1	3.3 V dc
GPS current Consumption	300 mA @ 3.3 V
Other Component Current consumption	150 mA @ 5 V

GSM Current (Standby)	3 mA
GSM Operating	250 mA
Total System Operating	350 mA
Total System Stand by	250 mA
Reverse Polarity	Yes
Short Circuit Protection	Yes up to 3 A
Ripple	Not to exceed 100 m A peak to peak for given output voltage.
Operating Temperature	0 to 55 Deg.

Environmental Characteristics

Description	Rating
Operating Temperature	- 20 to +65 C
Storage Temperature	- 40 to +85 C
Humidity	95 % @ 30C
Vibration: Frequency	10- 500 Hz
Displacement	+/- 5 mm
Acceleration	3 g
Sweep Rate	1 Octave / minute
Axis	3 (X, Y, Z)
Duration	1 h Per axis

Namur Sensor

Make	Model
Katlax /Equivalent make	M18/M30 Namur Inductive Proximity with stainless steel body or equivalent make subject to approval from HPC.

Characteristics:

Description	Rating
Operating Voltage	12V from Intrinsic safe zone
Current Drawn	2 mA
Current Drawn when target is near	4 mA

Intrinsic Zone Sensor Approvals

Characteristics:

Description	Rating
Temperature Class	T4
Group	I, II A, II B, II C
Gas Mixture	IIC

Wiring From the sensor to the VMU

Make	Model
	Flame Retardant Low Smoke

Characteristics:

Description	Rating
Size	30 /0.25 mm
No of Strand	16
Thickness of Insulation	2.7 mm
Critical Oxygen index	30.6%
Temperature Index	Min. 175 C
Meets Flammability test as per IEC 332-1	

GPS Receiver

• Cold Start	: 1 minutes
• Warm Start	: 40 Seconds
• Position upgrade rate	: 1 Second
• Antenna	: Active, External antenna
• Operating Temp	: -10 to 55 Deg. C
• Positional accuracy	: 5 meters

GSM/ GPRS Module

• Mode	: GPRS/ SMS/ Voice enabled
• Data rate	: 9600bps
• Frequency	: 900/1800MHz (Dual band)
• Antenna	: Dual band passive

Control electronics :
 Micro controller based circuit that provides interface for GPS, GSM/ GPRS, PC, Message
 Switches and Status Indicators.

Power supply

• Input Voltage	: 12V –10% to 24V +30% DC (10.8V to 31.2V)
• Output Voltage	: Less than 5V DC
• Current	: Not to exceed 350mA anywhere in the seal control circuit.
• Ripple	: Not to exceed 100mA peak-to-peak for the given output voltages
• Operating Temperature	: 0 to +55°C

Auxiliary Battery with charger

• Type : Sealed Lead acid SMF
• Rating: 12V, 7 ah
• Dimensions: L = 151 mm, W= 98 mm , H= 91 MM
• Charger Circuit
• Size L= 4" X 4" H= 2.5 "
• Back up time to be determined

Both battery and charger shall be packed in sealed case. Acceptable brands of battery are:
 Exide/ Amco/ Amaron/ Standard Furukawa/ HBL Nife.

The battery shall be suitable to be installed inside VMU box or outside the VMU box with tamper proof wiring connection with VMU. Detailed circuitry of the auxiliary battery/ vehicle main battery/ VMU shall be discussed and decided with the successful vendor.

The Vehicle Management System shall provide for the following:

1. Alarm / Alert on special messages from VMU
2. Emergency Alert to VMU
3. Velocity and direction monitoring
4. Graphically display the vehicle position on a digitized map with different levels of zoom.
5. Geofencing of designated routes.
6. Fleet Management Master Database shall contain the following fields:
 - Vehicle Reg. No.
 - Engine No.
 - Chassis No
 - Owner's Name
 - Capacity (KL)
 - Model
 - Year of Manufacture
 - Repair History,
 - Mandatory clearances Status
 - Explosive
 - RTO
 - Calibration due date
 - Insurance policy details

Note: Final list of fields to be maintained in database will be finalized during system requirement study.

7. Performance Monitoring Reports of trucks on the following parameters:
 - No of Trips
 - No of Deliveries
 - Quantity Delivered (KL)
 - Distance Covered (KM)
 - No. of Work days etc.
 - Average distance (km) per trip
 - Average Delivery time
 - Average Trip Time
 - Total Deliveries
 - Total Distance Travelled*
 - Total No of Trips
 - Daily Deliveries
 - Cumulative Deliveries
 - Route Report
 - Speed Violation
 - Route Violation
 - Seal Status etc.
 - Provision for selection of truck without going thru lot.

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*For calculation of distances, the vendor may use a third party tool or use a self developed internal algorithm. However, the accuracy of distance calculated by the system shall be $\pm 5\%$ or better as compared with vehicle odometer reading.

A user interface shall be provided for entering the details of vehicles and following data:-

- Destination
- Product (up to 4 products)
- Quantity of each product
- Date
- Time

These above data shall be entered for each trip, stored in the database and used for reporting.

Alternatively, the above details can be provided by HPCL's ERP System and the same shall be incorporated into the VMS application for reporting and display purposes.

B. DIGITAL MAPS & MAPPING

Route Definition

Digital map of the delivery areas will be available in the system developed for HPCL's TTs. Any additional routes to be taken by the trucks from a depot/ terminal/ TOP to retail outlets covered by the location shall be surveyed properly by the vendor. The routes shall match with the roads shown in the digitized map and prominent landmarks must be plotted on the map. Location of depot and retail outlets must be shown with prominent color icons. The survey should be done preferably with the help of an automatic GIS data logger. Accuracy of latitude/ longitude, correlating the same with ground features and geofencing of the routes is of paramount importance.

Standard routes from Depot to Retail outlet shall be geofenced, with latitudes, longitudes ascertained and place names associated with the coordinates for all important landmarks along the route. For all HPCL retail outlets, "entry" and "exit" coordinates shall be exclusively plotted.

Digital Map customization as required. i.e. the map of each location area will show:

- * Retail outlets/petrol stations
- * Assigned routes of tanker lorries
- * Location of depots/terminals
- * Other important landmarks e.g. Post Office, Hospital, Temple, Bridge etc.

Create and link to Records of vehicles by number, SIM number, dealer name etc.
Digital Map Calibration to be undertaken for achieving the accuracy in results.

C. ELECTRICAL SEAL MONITORING SYSTEM (ESMS)

A seal monitoring system shall be provided for the tank trucks. Proposed technology for the same is as below:-

The system shall consist of:

- a. Proximity stainless steel sensors in each dome cover & 1 no in gate valve box.
- b. Mechanical locking – Enclosure for bottom valves (not in vendor's scope)
- c. Wiring and interface circuits to connect to the VMU

Sensors are to be attached to dome covers with Teflon washer in sleeve and gate valve box enclosing outlet valves from the tanker. Mechanical arrangement for providing the enclosure for bottom valves (with padlocking arrangement) shall be provided for the TTs by HPCL/ Truck owner. The sensors shall be connected to the VMU in the driver's cabin through a switch/ interface unit. The sensors are individually wired to switch(es) / interface unit(s). Every time the manhole or the valve enclosure box is disturbed (hatch/ door is opened more than 5 mm), a message is sent to the Central VMS server. Once locked the sensing tip would not move with reference to the sensor, despite vibrations due to vehicle movement.

The sensors and switch / interface unit to comply with international standards of safety and to have CCOE approval.

The purpose of using the sensors is to be able to track the place and time of opening of the manhole covers and the outlets of the tanker. Status of open/close of individual seals shall be provided with seal no., date, time, place etc.

Please see attached diagram of the proposed system.

The detailed proposal for seal monitoring system along with technical details of components like proximity sensors / harness wires / interface unit / mechanical locking unit to be submitted along with the technical bid.

ABOVE IS A SUGGESTED SOLUTION FOR SEAL MONITORING SYSTEM. HOWEVER, VENDORS MAY OFFER ANY OTHER SUGGESTED SYSTEM / SOLUTION / TECHNOLOGY AS AN ALTERNATIVE (e.g. using any other suitable sensors with CCOE certification & CMRI approval). THE PROPOSED SYSTEM SHOULD BE COMPATIBLE WITH THE VMU AND MUST BE ABLE TO PROVIDE THE FUNCTIONALITY AS EXPLAINED ABOVE. THE SYSTEM SHOULD HAVE REQUIRED STATUTORY CLEARANCES FROM CCOE. HPCL WILL HAVE THE OPTION TO SELECT THE TECHNOLOGY MOST SUITABLE FOR THE APPLICATION AND FAIL SAFE.

ALL TECHNICAL SPECIFICATIONS, DOCUMENTS, APPROVALS etc. FOR SUCH SYSTEM SHALL BE SUBMITTED ALONG WITH UNPRICED BID.

CCOE APPROVAL FOR THE VMS SYSTEM ALONG WITH SEAL MONITORING SYTEM SHOULD BE SUBMITTED AT THE TIME OF TECHNICALREVIEW

4. SPECIAL CONDITIONS

All modules including extensions for integration with add-on sensors would be fully usable. The hardware (mobile units and accessories) shall be compliant of Intrinsic Safety standards that are internationally accepted. The system (VMU and ESMS) shall have approval of Chief Controller of Explosives, Government of India.

Vendor shall be responsible for supply and installation of all equipment at the designated places (as per Attachment – I). All arrangements for transportation, storage of material, any tools or equipment required for installation etc. shall be provided by the vendor.

Vendor shall provide technical literature/ brochure of all components of the proposed solution along with unpriced bid.

All welding works on the TTs shall be carried out only after the TT has been degassed. HPCL shall provide TTs in a degassed condition. A maximum of 5 - 6 TTs can be made available by HPCL per working day at any one location, for carrying out the work.

If any hot work is carried out within HPCL's premises, the same shall be carried with due work permit from HPCL. HPCL will try to arrange work permits upto 10 p.m.

Wherever power and space are available in HPCL's premises, the same shall be provided, otherwise, the vendor shall make his own arrangements for generator and space for working outside the depot/ terminal premises.

Wherever space is available, HPCL may permit the vendor to store their material.

As a part of technical evaluation, vendors will be required to give a live demonstration, of their proposed solution including vehicle tracking and seal monitoring system to HPCL, on a vehicle at their own cost, and get data recorded in demo website of to show their technical capability at the time of technical review .

The job will be distributed to 2 parties on 60:40 basis. The same will be worked out as given below.

Awarding of the job to 2 parties on 60:40 basis.

- 1) L1 party would be decided basis lowest total delivered Cost (Negotiated rates in case of negotiation) including all taxes. L1 would be offered 60 % of the contract value.
- 2) The total delivered cost of L1 bidder will be counter offered to L2 party.
- 3) On acceptance by the L2 party, the unit rates quoted by L2 party shall be pro-rated to match the counter offer value.
- 4) L2 party will be offered 40% of the contract value based on prorated rates only.
- 5) In case of non acceptance of counter offer rates by L2 party, 100% jobs would be allotted to L1 party.

For integration of the proposed system with existing system(s), the data shall be sent in specific format as advised by HPCL so that loading of the data in existing database(s) is seamless. Successful vendor shall, in coordination with HPCL and existing vendor(s) of HPCL, provide a script/ program to load the data from VMU to the existing RDBMS. Modifications of

front end shall be carried out in coordination with HPCL/ existing vendor(s) to present a common interface to the users. The interface between the two systems shall be transparent to the user.

Successful vendor shall make available the VMU firmware source code to HPCL. In case the successful vendor decides to keep the VMU source code in an Escrow account, the same shall be permitted. However, the charges for opening and maintaining such account shall be borne by the successful vendor for a period of three years (i.e. during one year warranty and two years of AMC).

The successful vendor shall conduct a system requirement study and submit the SRS document to HPCL. Software development/ customization work and installation shall start only after approval of the SRS document by HPCL. The vendor shall also provide hardware design details in the SRS document.

Software shall be licensed in the name of Hindustan Petroleum Corporation Ltd.

The system including all hardware and software supplied by the vendor shall be under warranty for one year from date of commissioning. HPCL may enter into AMC thereafter.

A separate agreement for AMC shall be entered with the successful vendor after completion of warranty period.

During the warranty period and AMC period, a web access will be provided to the vendor for accessing and monitoring the performance of the system. All reports shall also be generated and delivered electronically to designated persons by the vendor during warranty and AMC. Vendor shall provide 24*7 web support to users with a provision of web/ email complaint logging and response. All such complaints shall be responded to by the vendor within 1 working day of logging the complaint, and attended to within 3 working days of logging the complaint.

Successful vendor shall maintain an inventory of minimum spares during warranty and AMC period at a Depot/ Terminal of HPCL at or near HPCL Regional office city. The no. of Regional Offices of HPCL are : East zone – 6, West Zone - 12, North Zone - 12, South Zone - 11. The spares inventory at each identified location shall consist of two complete sets of hardware (VMU, Sensors, Cables, fuses etc.) A list of such spares shall be decided with the successful vendor. The spares shall be in the custody of HPCL and shall be replenished by the vendor as and when depleted.

SPECIAL PAYMENT TERMS:

Subject to retention money clause, following shall be the payment terms:-

A) Supply Portion:-

i) Vendors:

100 % of Payments will be made to vendors within 15 days for supply, installation, testing, commissioning and training of crew and officers of the VMS system including online tracking after submission of the following documents :

- i) Invoice or bill
- ii) Proof of receipt at site
- iii) Manufacturer's test certificates and warranty / guarantee certificates
- iv) Third party to carry out the inspection of Hardware as well as Software during installation on T/Ts as per ANSI Code for sampling purpose at all locations and as per the technical specification of the subject tender. The vendor would submit 3rd party inspection report along with the bills to the Corporation.
- v) The vendor is required to pay inspection charges to third party. HPC will not be making any payment to third party.
- vi) All copies of the bill shall be accompanied by confirmation of supply or installation & commissioning, as applicable, at locations duly signed by the respective Manager/Dy. Manager of the Depot / Terminal. Payments will be released from zones within 15 days from the date of receipt of certified bill.

B) Installation, Testing and Commissioning including third party inspection.

Certification by third party for installation , testing & commissioning of the system on TTs. as per ANSI standards i.e. 3rd party to follow ANSI/ASQC/Z 1.4 – Gen. for sampling of TTs at each location.

Payment shall be made for installation, testing and commissioning in Indian Rupees. Partial payment for completed work at each location (work completed in all respects at each location/ TT) shall be paid against bills/invoices duly certified by the authorized personnel of the depot/ terminal, third party concerned transporters confirming of installation /commissioning and testing of hardware and software including demonstration of all features at locations. Payments will be released by disbursement section of respective zones (5 zones) within 15 days from the date of receipt of certified bills.

For AMC, the payment terms shall be quarterly, at the end of each quarter. Payment will be released by respective zones.

Tender/ Work order quantities are approximate and payment shall be made as per actual measurements. The tenderer is not entitled to for any sort of compensation towards materials procured/ stored in excess of the measured quantity if any.

Excess quantities over and above that mentioned in the tender/ work order or extra items or deviation in work order should not be carried out by the tenderer unless he has been asked to do so in writing and if carried out without such written approval, the same will be at risk and cost of the tenderer.

COMPLETION PERIOD : **24 Weeks** from date of LOI/P.O.

TIMELINES:

Submission of SRS Documents : **2 Weeks** after release of LOI/ PO

Design, development, customization, testing of
VMS / ESMS and software integration

with existing VMS system(s).

: **2 weeks** after approval of SRS

Installation, testing and commissioning of VMS
ESMS hardware for all concerned TTs and
complete integration with existing software

: **20 Weeks** after release of LOI/ PO

TRAINING:

The successful vendor shall conduct min. one day user training at each location after installation and commissioning. Administrator training at HQO/ Zonal office shall also be conducted. User manual shall be provided for each location. The vendor will have to get acknowledgement from concerned depot for having completed training along with installation.

LIST OF LOCATIONS AND TTs : ATTACHMENT
AMC Format : ATTACHMENT

5. SPECIAL INSTRUCTIONS TO BIDDERS

The tenderers are required to go through the tender document thoroughly and carefully and offer their most competitive rates for the job.

1.0 DEFINITION :

- 1.1 **Purchaser :** Purchaser means Hindustan Petroleum Corporation Ltd. (HPCL) having registered office at 17 Jamshedji Tata Road, Mumbai- 400 020. The term purchaser includes successors and assigns of HPCL.
- 1.2 **Vendor :** Vendor means the person, firm or corporation to which this purchase order is addressed. The term Vendor includes its successors and assigns.
- 1.3 **Goods :** Goods means the articles, materials, supplies, drawings, data and other property and all services, including design, delivery installation, inspection testing and commissioning specified to required to complete this purchase order.

2.0 PRICES :

- 2.1 **Firm Price :** Vendor shall confirm that quoted prices shall be firm and subject to no escalation whatsoever, till completion of order.

3.0 INFORMATION REQUIRED WITH BIDS

The following details are required to be submitted in one original + 02 (TWO) copies along with offer:

- a) Following documents required:
 - i) Latest & Valid Income Tax Clearance and Sales Tax Clearance Certificate & PAN Number.
 - ii) Power of Attorney in the name of person who has signed the bid.
 - iii) Solvency Certificate from Nationalized/Scheduled bank (Other than Co-Operative Banks).
 - iv) Copy of Audited Balance Sheet and Profit and Loss Account for the last three years i.e. for the 2005-06, 2006-2007 & 2007-2008.
- b) Details of similar works done during past seven years with name & postal address of clients along with copies of letters of Intent/work orders and completion certificate/ any other document which indicates Completion of the subject contract and other documents. Similar works for this purpose has been elucidated in the Notice Inviting Tender (NIT).
- c) Project manpower organization proposed to be deployed for execution of the work with bio-data of project manager & key personnel.
- d) List of Exception & Deviation, if any. In case of no deviation the bidder shall furnish a declaration to this effect.
- e) Quality Assurance / Quality Control Plan.
- f) Work completion Schedule in the form of Bar chart.
- g) Schedule of Rates, duly signed & stamped keeping rates & amount blank.
- h) Checklist/Commercial Questionnaire duly filled in.

- i) Technical details / documents as specified elsewhere in bidding document – particulars & catalogues of various bought out items mentioned in this Tender document or proposed to be used by the prospective bidders. Any other document sought any where in the tender document but not expressly listed herein.
- j) Other documents, if any, bidder desires to submit to facilitate evaluation of their bid.
- k) Copies of EPF Registration and ESIC Registration.

4.0 INCOME TAX CLEARANCE CERTIFICATE (Applicable to Indian Vendors only)

Attested copy of Latest and Valid Income Tax Clearance Certificate issued by concerned tax authorities during last 12 months in the proforma prescribed by Govt. of India. The certificates should be in the name of the firm/individual quoting for the work.

5.0 BID CLARIFICATIONS/AMENDMENTS BY HPCL

- 5.1 HPCL may issue clarifications/amendments in the form of addendum/corrigendum during the bidding period and may also issue amendments subsequent to receiving the bids. For the addendum/corrigendum issued during the bidding period, bidders shall confirm the inclusion of addendum/corrigendum in their bid. Bidder shall follow the instructions issued along with addendum/corrigendum.
- 5.2 Bidders shall examine the Bidding Document thoroughly and submit to HPCL any apparent conflict, discrepancy or error. HPCL shall issue appropriate clarifications or amendments, if required. Any failure by Bidder to comply with the aforesaid shall not excuse the Bidder from performing the Services in accordance with the contract if subsequently awarded.

6.0 CONFIDENTIALITY OF DOCUMENTS

Bidder shall treat the Bidding Document and contents therein as private and confidential and shall not use the Bidding Document for any other purposes.

7.0 APPLICABLE LANGUAGE

The bid prepared by the bidder, all correspondences and documents related to this bid shall be written in English language only. For document submitted in any other language, an English translation shall also be submitted, in which case, for the purpose of interpretation of the bid, the English translation shall govern.

8.0 CAUTION AND DISCLAIMER

Transfer of Bid document by the bidder is not permitted.
Bidder shall make his own interpretation of any and all information provided in the Bidding Document. HPCL shall not be responsible for the accuracy or completeness of such information and/or interpretation. Although certain information's are provided in the Bidding Document, however, bidder shall be responsible for obtaining and verifying

all necessary data and information as required by him. HPCL reserves the right to accept or reject any/all tender in whole or in part without assigning any reason whatsoever. HPCL shall not be bound to accept the lowest tender and reserves the right to accept any or more tenders in part. Decision of HPCL in this regard shall be final.

9.0 **Deleted**

10.0 **EVALUATION OF BIDS**

The bids shall be evaluated on the basis of the following criteria:

10.1 **EARNEST MONEY DEPOSIT (EMD)**

Bids without EMD as specified in the Notice Inviting Tender or with EMD not as per prescribed proforma as per Bidding Document shall be rejected.

OR

10.2 **RECEIPT OF BID**

Bids received late i.e. after due date and time, due to any reason (s) whatsoever shall be rejected.

10.3 **DEVIATIONS TO TENDER REQUIREMENTS**

10.3.1 The bidders are required to submit offers strictly as per the terms and conditions/specifications given in the Bidding Document and not to stipulate any deviations. Bidders shall furnish a declaration as per format “**Compliance to Bid Requirement**” enclosed. The offer of bidders stipulating deviations to any of the following terms/conditions of the Bidding Document shall not be considered for price opening.

- i) Performance Bank Guarantee.
- ii) Defect Liability period (Clause No. 5.n of GCC)
- iii) Suspension & Termination (Clause No.5e & 12 of GCC)
- iv) Increase in Time Schedule of Completion
- v) Liquidated Damages (Clause No. 10 of GCC)
- vi) Force Majeure (Clause No. 13 of GCC)
- vii) Scope of work & Scope of Supply
- viii) Schedule of Rates
- ix) Validity of offer
- x) Arbitration (Clause No 14 of GCC)
- xi) Deviation in payment terms
- xii) Integrity pact

10.3.2 In case Bidders wish to stipulate any deviation to Bidding Document requirements other than those stated above, they shall indicate the same on separate sheet(s) of paper mentioning the same as per format “**Exception and Deviation Statement**” enclosed. Bidder shall note that clarification/queries/deviations mentioned elsewhere in the offer shall not be given any cognizance. However HPCL reserves their right to reject bids containing deviations to any of the Bidding Document stipulations.

10.4 UNSOLICITED POST BID MODIFICATION

Bidders are advised to quote strictly as per terms and conditions of the Bidding Document and not to stipulate any deviation / exceptions. Once, quoted the bidders shall not make any subsequent price changes, whether resulting or arising out of any technical / commercial clarifications sought/allowed on any deviations or exceptions mentioned in the bid unless discussed and agreed by HPCL in writing.

10.5 DETERMINATION OF RESPONSIVENESS

- i) Prior to the financial evaluation of bids, the HPCL will determine whether each bid is substantially responsive to the requirements of the Bidding Document.
- ii) For the purpose of this Clause, a substantially responsive bid is one which conforms to all the terms and conditions and specifications of the Bidding Document without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the works or which limits in any substantial way, inconsistent with the Bidding Document, the HPCL's rights or Bidder's obligation under the Contract and retention of which deviation or reservation would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- iii) If a bid is not substantially responsive to the requirements of the Bidding Document, it may be rejected by the HPCL. Such rejection may be intimated to the Bidder.

11.0 EVALUATION OF PRICE BIDS

- 11.1 The "PRICE BIDS" of only substantially responsive bidders shall be considered for opening.
- 11.2 Bidders shall clearly mention in the price bid whether the quoted prices are in Indian Rupees (INR),
- 11.3 The quoted prices shall be checked to determine the arithmetical correctness of the same.
- 11.4 HPCL reserves their right to extend purchase/price preference to NSIC/Public Sector Enterprises as admissible under the existing policies of Government of India.
- 11.5 HPCL reserves their right to negotiate the quoted prices.
- 11.6 HPCL reserves the right to delete any of the items in the Schedule of Rates at the time of placement of Fax of Intent/Purchase Order. The decision of HPCL shall be final and binding.
- 11.7 The Contractor shall quote for all the items of the SOR. It may be noted that if any item is left unquoted, then such a quotation will be loaded with the highest quoted rate for that particular item for evaluation purpose.

11.8 Job will be distributed between two parties on 60 : 40 basis at each location as per details given below.

11.8.1 **L1 bidder will be established on the overall lowest net delivered rate basis. The evaluation of L1 bidder will be based on Net Delivered Rate as given below.**

11.8.2 Item wise quantities mentioned in the tender will be distributed in the ratio of 60:40 on L1 & L2 parties

Net Delivered Rate : The Net Delivered Rate shall consist of Basic Price, Excise Duty, Sales Tax, Transit Insurance, Inspection Charges, Charges for Comprehensive AMC for Three years after warranty period and Inland Transportation Charges to our various locations. The Octroi/Entry tax shall be reimbursed at actuals on submission of documentary evidence.

12.0 **REBATE**

No suo-moto reduction in prices quoted by bidder shall be permitted after opening of the bid. If any bidder unilaterally reduces the prices quoted by him in his bid after opening of bids, the bid (s) of such bidder(s) will be liable to be rejected. Such reduction shall not be considered for comparison of prices but shall be binding on the bidder in case he happens to be a successful bidder for award of work.

13.0 **CONTRACT AGREEMENT**

13.1 Contract documents for Agreement or Purchase Order as shall be prepared after award of works. Successful bidder(s) shall be intimated regarding award of works through Fax/Letter of Intent. Until the final contract documents are prepared and executed, this Bidding Document together with the annexed documents, modification, deletions agreed upon by the HPCL and Bidder's acceptance thereof shall constitute a binding contract between the successful bidder(s) and the HPCL based on terms contained in the aforesaid documents and the finally submitted and accepted prices.

13.2 The Contract document shall consist of the following:

- a) Original Bidding Document along with its enclosures issued.
- b) Addendum/Corrigendum to Bidding Document issued, if any.
- c) Fax/Letter of Intent.
- d) The detailed Letter of Award/Acceptance along with Statement of Agreed Variations (if any) and enclosures attached therewith.

13.3 The statement of agreed variations shall be prepared based on the finally retained deviations, if any, by the Bidder and accepted by HPCL. All other correspondences between HPCL and the Bidder prior to issue of Fax/Letter of Intent shall be treated as Null & Void. Any deviations or stipulations made and accepted by HPCL after award of the job shall be treated as amendments to the contract document as above.

14.0 REPEAT ORDER :

For any items ordered on the Vendor, the Purchaser can place repeat orders for any additional quantity not exceeding the quantity of the original purchase order within a period of one year from the date of the original order at the same prices, terms and conditions.

15.0 VENDOR'S SALES CONDITIONS :

Vendor's standard sales conditions, if any, shall not be applicable to the offer and only the Purchaser's "General Purchase Conditions" shall apply with the exception deviations specifically agreed between the vendor and the Purchaser and brought out in the Purchase Order.

16.0 DELAYS AND NON-CONFORMANCE :

In case of Delivery schedule not being adhered to in progressing the manufacture and supply the Purchaser has the right to :

- (i) Cancel the order wholly or in part-without any liability to Cancellation charges and procure the goods elsewhere, in which case Vendor shall make good the difference between the cost of goods procured elsewhere and price set forth in the order with the Vendor.

In the event of rejection of non-conforming goods, the Vendor shall be allowed to correct the non-conformities without extension in delivery period. If Vendor fails to do so within the stipulated time, the Purchaser shall have the right to recover actual expenses incurred by Purchaser in installing and removing the non-conforming goods. This shall not prejudice the right of the Purchaser for invoking the provisions of clause on price reduction for delayed deliveries as aforesaid.

17.0 INSPECTION-CHECK-TESTING (including third party inspection) :

The materials or workmanship covered by the Purchase Orders are subject to inspection and testing at any time prior to shipment and/or despatch and to final inspection within a reasonable time after arrival at site. The party to arrange for 3rd party inspection for manufacturing , Installation integration of software & commissioning of the system.

The materials should be subject to INSPECTION by any of the reputed International Agencies like DNV, SGS , Bureau Veritas, Lloyds Register of Shipping, etc. for pre-despatch inspection and the Vendor shall also bear the expenses concerning preparation and rendering of tests required by such agencies nominated including appointment of third party inspection . Further party to inspect the system as per international standards. for manufacturing, installation & commissioning of hardware & software. Third party inspection as per ANSI/ASQC/z1.4.

The minimum parameters of inspection shall include performance of VMU with modem (for data & voice communication in GSM network) and performance of sensors as per technical specifications in this document and any subsequent clarifications.

18.0 REVISIONS, CHANGES AND CANCELLATION :

The purchaser may make any revisions or changes in Purchase Order which includes additions deletion of locations , items & amend the quantities ordered. The effect of such changes , delivery period and/ or other terms and conditions may be settled through mutual agreement. Claim for adjustment must be made within 15 days of revision, cancellation being conveyed to the Vendor.

The Purchaser may terminate the order at any time if the Vendor does not adhere to or all agreed terms and conditions. In such case the Purchaser has the option to buy complete or incomplete components with or without verification/ inspection at mutually agreed prices.

19.0 WARRANTEE / PERFORMANCE BANK GUARANTEE :

The Vendor shall warrant that the goods shall give required operational performance, shall be suitable for the service intended and be of the quality or the best grade in case no quality is specified.

"The goods shall be guaranteed against any defects in design, materials, workmanship and performance for a period of 12 months from the date of installation of material at HPCL Locations. The vendor shall submit a Performance Bank Guarantee in the prescribed format (enclosed herewith) for a value equivalent to 10 % of the total contract value. For the purposes of this contract, the total contract value shall be the total delivered cost including taxes & duties, but excluding charges towards AMC. In partial modification to clause no. 4-b of GTC, this performance bank guarantee should remain valid for the Warranty period of **36 months**, including 24 months AMC period."

The performance bank guarantee should also have a minimum claim period of TWO (2) Months over and above the guarantee period.

Should any defects develop within the Guarantee/ Warrantee period, the same shall be remedied or the goods shall be replaced free of charge. All expenses incurred including those on transportation, shall be borne by the Vendor.

20.0 NON-ASSIGNMENT :

Any assignment of this Purchase Order or of any of the rights hereunder in any manner or under any certificates by operation of the law or otherwise shall be void without prior written consent of the Purchaser.

21.0 PATENTS, VENDOR'S LIABILITY AND COMPLIANCE OF REGULATION:

Vendor shall protect and fully indemnify the purchaser from any claims for infringement of patents, copy right, trade make or the like.

Vendor shall also protect and fully indemnify the Purchaser from any claims from Vendor's Workmen employees, their heirs, dependents, representatives etc. or from any other person/ persons or bodies/ companies etc. for any act of commission or omission while executing the order.

Vendor shall be responsible for compliance with all requirements under the laws and shall protect and indemnify completely the Purchaser from any claim/ penalties arising out of any infringements.

22.0 REJECTIONS / REMOVAL OF REJECTED GOODS & REPLACEMENT :

22.1 In case the testing and inspection at any stage by Inspectors reveal that the equipment, materials and workmanship do not comply with specification and requirements, the same shall be removed by the vendor at his own risk and cost within the time allowed by the purchaser.

22.2 The Purchase shall be at liberty to dispose of such rejected goods in such manner as he may think appropriate, in the event the vendor fails to remove the rejected goods within the stipulated time period. All expenses incurred by the purchaser for such disposal shall be to the account of the vendor. The freight paid by the purchaser, if any, on the inward journey of the rejected materials shall be reimbursed by the vendor to the purchaser before the rejected materials are removed by the vendor. The vendor will have to proceed with the replacement of such equipment or part of the equipment as the case may be without claiming any extra payment if so required by the purchaser. The time taken for replacement in such event will not be added to the contractual delivery period.

23.0 DISCUSSIONS / NEGOTIATIONS :

The Purchaser reserves the right to negotiate with the tenderers. In the event of negotiations, the tenderer will be required to confirm the negotiations in writing within the stipulated time. If the tenderer fails to comply with this requirement, the purchaser reserves the right to reject the offer at its discretion.

Vendor will have to attend our Head Office at Mumbai, India for verification of original documents / clarifications / Negotiations in respect of their offer without any commitment on the part of the Corporation.

24.0 DELIVERY

Material is to be delivered and installed on POL TTs at the locations of Hindustan Petroleum Corporation Limited as mentioned in the attached list. The material should be properly covered and securely packed with clear and visible marking on the packages.

25.0 ENCLOSED FORMATS:-

1. Vendor's Confirmation of Technical Requirements
2. Compliance to Bid requirement
3. Exception and deviations statement
4. Statement of Credentials

26.0 BILLING :- The locations will issue indents to vendors on behalf of transporters. The party will have to raise bills on transporters account (Payable by HPCL). The party will get bill certified by location in charge & transporter & submit to location in charge along with third party inspection report. This is a critical requirement & same needs to be strictly adhered to.

6. VENDOR'S CONFIRMATION OF TECHNICAL REQUIREMENTS

Please provide information as required below (Vendors may attach separate sheets if required)

Sr. No.	DESCRIPTION	SPECIFICATION REQUIRED	VENDOR'S CONFIRMATION
1.	Operating System for VMS Server	Windows 2003/ Redhat Linux	For Information
2.	RDBMS	Oracle 9i/ 10g / MS SQL Server / MySQL	For Information
3.	Web Server	Apache/Tomcat / IIS/ Oracle AS	For information
4.	Non-flammable multi-core cable in GI conduits	16 strand 1.5mm wire HVT 110025 PVC (Low voltage)	
6.	VMU box (including tracking device/ GSM/GPRS Modem/ Power Supply etc.) – in driver cabin.	Metal box/ ABS (Non Conductive) IP 55	
7.	GPS Receiver – Make and Model	Vendor to mention	
8.	GPS antenna – on roof of vehicle	Magnetic Base (3 Volt)	
9.	GPS Antenna Type	Vendor to mention (Active/ Passive)	
10.	GSM/GPRS antenna used for sending & receiving SMS/GPRS packets/ Voice calls – in driver cabin/ or roof of vehicle	Coax Cable (50 ohm Passive)	
11.	Non flammable multi code-cable in Non flammable GI conduit	HVT110025 PVC (Low voltage)	
12.	Micro proximity metal sensor (attached to dome cover)	Polycarbonate – PCB/ ABS (7.7 to 9.0V dc, 1k ohm)	
13.	Micro switch/ Proximity detector relay	Stainless steel ABS (25mA typical at 24 v)	
14.	Proximity Sensor/ Switch – Make Model	Vendor to mention	
15.	GSM/GPRS Modem – Make and model	Vendor to mention	
16.	Whether quoted for alternative technology for seal monitoring system	Vendor to mention, Yes/ No	
17.	CCOE Approval for the entire System	Required. Please attach copy of approval	

7. COMPLIANCE TO BID REQUIREMENT - FORMAT

NAME OF WORK :

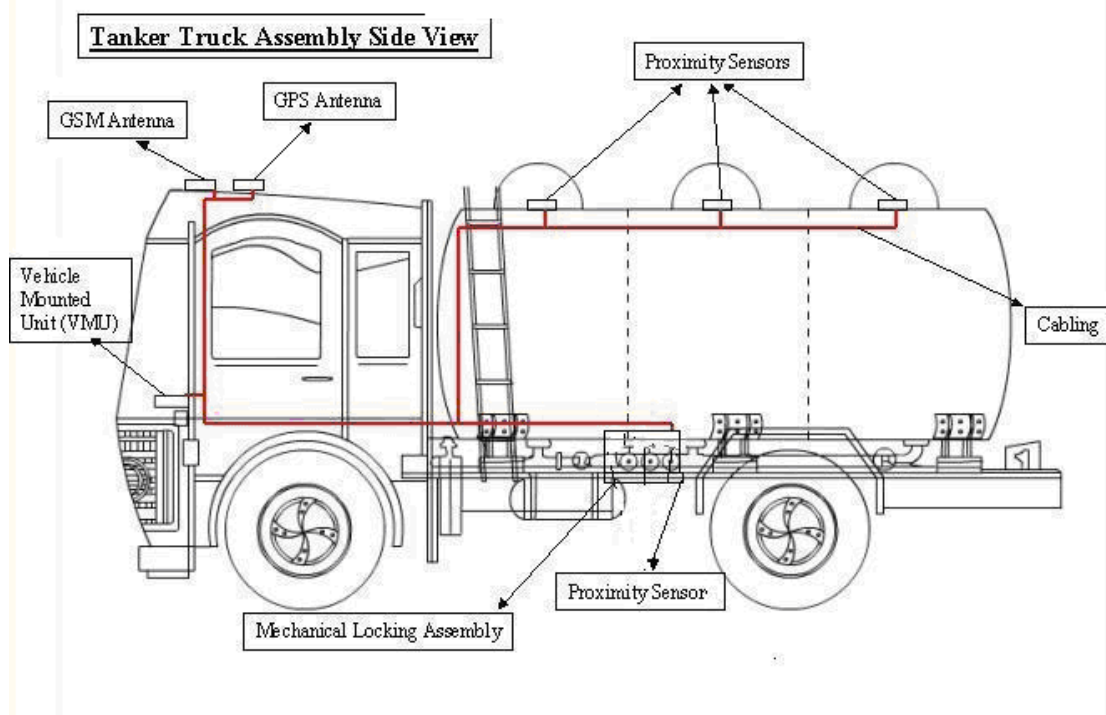
BIDDING DOCUMENT NO. :

We confirm that our Bid complies with the total Techno-Commercial requirements of Bidding Document.

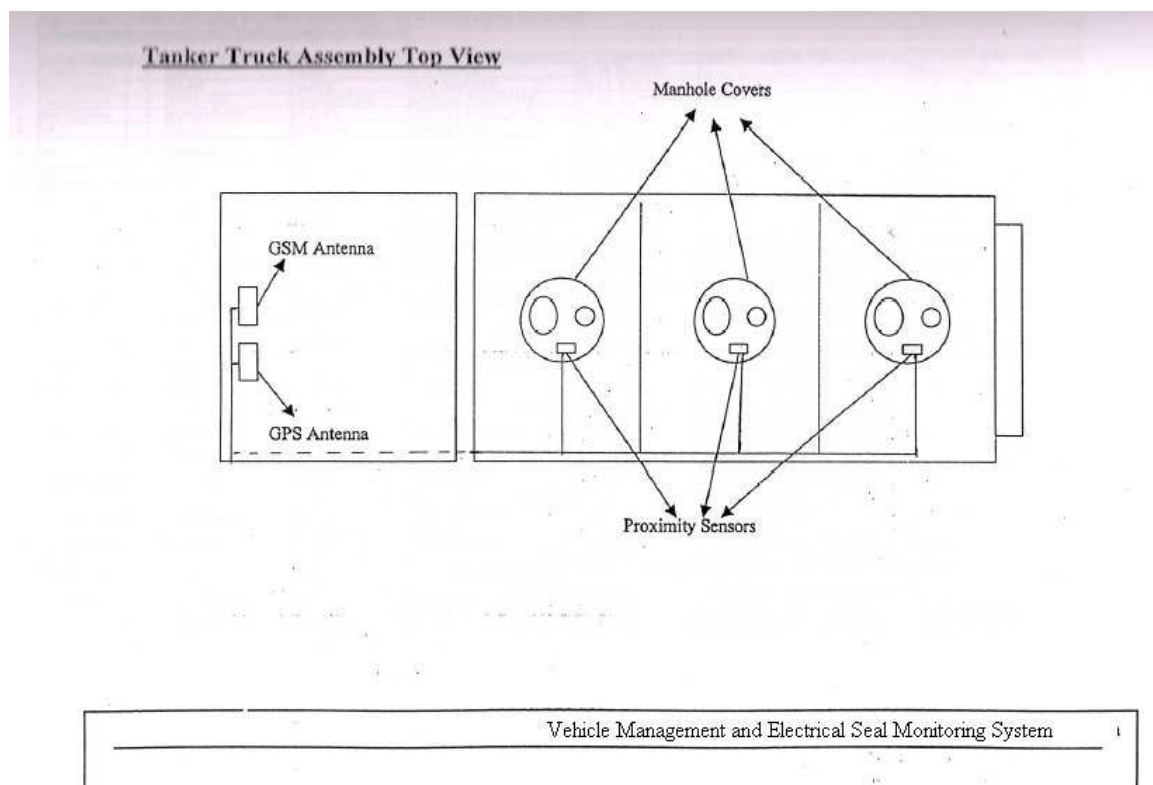
SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

Integration of Electrical Seal Monitoring System for Petroleum Tank Trucks



Vehicle Management and Electrical Seal Monitoring System



Vehicle Management and Electrical Seal Monitoring System

8. SPECIFICATIONS FOR COMPONENTS OF VMS/ ESMS DEVICE & SENSORS

	Item	Position	Material	Electrical rating
1	Non-flammable multi-core cable in GI conduits	Driver cabin	16 strand 1.5mm wire HVT 110025 PVC	Low voltage
2	Tracking device – in driver cabin	Driver cabin	Metal box/ ABS	Non Conductive
3	GPS antenna – on driver cabin roof	Diver cabin	Magnetic Base	3 Volt sensing
4	GSM antenna used for sending & receiving SMS text & voice calls – on driver cabin roof	Driver cabin	Coax Cable	50 ohm Passive
5	Non flammable multi core-cable in GI conduit	Tanker	HVT110025 PVC	Low voltage
6	Micro proximity metal sensor (attached to dome cover and Valve enclosure)	Tanker	Stainless Steel.	7.7 to 9.0V dc , 1k ohm
7	Micro switch/ Proximity detector relay	Driver cabin	Polycarbonate/ ABS	25mA typical at 24 v

9. LIST OF NEW T/Ts LOCATION WISE

SI No	Zone	Location	Quantity of New VMS to be procured	State
1	West Zone Byculla	LONI	20	Maharashtra
2	West Zone	VASHI	36	Maharashtra
3	West Zone	WADALA	35	Maharashtra
4	West Zone	PAKNI*	40	Maharashtra
5	West Zone	KHAPRI	36	Maharashtra
6	West Zone	GAIGAON	10	Maharashtra
7	West Zone	HAZARWADI	15	Maharashtra
8	West Zone	VASCO TERMINAL, WHITE OIL	24	Goa
9	West Zone	MANGLIA	42	Madhya Pradesh
10	West Zone	NISHATPURA	3	Madhya Pradesh
11	West Zone	BHITONI	4	Madhya Pradesh
12	West Zone	SAGAR	5	Madhya Pradesh
13	West Zone	RAIRU	12	Madhya Pradesh
1	North West Zone, Ahmedabad	PALANPUR(SIDHPUR)	55	Gujarat
2	North West Zone	HAZIRA	29	Gujarat
3	North West Zone	NANDESARI	-8	Gujarat
4	North West Zone	KALIGAM	-47	Gujarat
5	North West Zone	KANDLA	3	Gujarat
6	North West Zone	RAJKOT/JAMNAGAR	46	Gujarat
7	North West Zone	BHARATPUR	18	Rajasthan
8	North West Zone	HANUMANGARH	5	Rajasthan
9	North West Zone	SALAWAS	-54	Rajasthan
10	North West Zone	SANGANER-	45	Rajasthan
11	North West Zone	SARADHANA- AJMER	105	Rajasthan
12	North West Zone	UDAIPUR	-2	Rajasthan
1	North Central Zone, Lucknow	MUGHALSARAI DEPOT	10	Uttar Pradesh
2	North Central Zone	BAITALPUR DEPOT	28	Uttar Pradesh
3	North Central Zone	GONDA DEPOT	3	Uttar Pradesh
4	North Central	MATHURA INSTALLATION	34	Uttar Pradesh

	Zone			
5	North Central Zone	KARARI DEPOT	19	Uttar Pradesh
6	North Central Zone	BARAUNI	130	Bihar
7	North Central Zone	PATNA (PUNPUN TOP)	35	Bihar
8	North Central Zone	PANKI TOP	10	Uttar Pradesh
9	North Central Zone	ALLAHABAD TOP	26	Uttar Pradesh
10	North Central Zone	AMOUSI IRD	69	Uttar Pradesh
11	North Central Zone	MEERUT	11	Uttar Pradesh
12	North Central Zone	NAJIBABAD	6	Uttar Pradesh
13	North Central Zone	AONLA	10	Uttaranchal
14	North Central Zone	ROORKEE	9	Orissa
15	North Central Zone	HALDWANI	45	Uttaranchal
1	East Zone, Kolkata	Budge Budge & Mourigram	4	West Bengal
2	East Zone	Haldia	11	West Bengal
3	East Zone	Rajbandh	16	West Bengal
4	East Zone	Rourkela	13	Orissa
5	East Zone	Cuttack	13	Orissa
6	East Zone	Sambalpur	0	Orissa Out of 29 TTs , 24 TTs are attached to Paradeep.
7	East Zone	Somnathpur	29	Orissa
8	East Zone	Behrampur	0	Orissa
9	East Zone	Paradeep	99	Orissa 24 TTs are attached to Paradeep from Sambalpur out of which 21 have VMS and 3 without VMS.
10	East Zone	Semliguda	3	Orissa
11	East Zone	Betkuchi	0	Assam
12	East Zone	Siliguri	5	WB
13	East Zone	Tatanagar	0	Jharkhand
14	East Zone	Ranchi Road	0	Jharkhand
15	East Zone	Dhanbad	0	Jharkhand
16	East Zone	Mandir Hasaud	44	Chatisgarh
17	East Zone	Bilaspur	23	Chatisgarh
18	East Zone	Malda	7	WB

19	East Zone	Hashimara	4	Assam
20	East Zone	BRPL	13	Assam
21	East Zone	NRL	17	Assam
1	North Zone, New Delhi	BATHINDA	62	Punjab
2	North Zone	AMBALA	21	Haryana
3	North Zone	CHANDIGARH	8	Haryana
4	North Zone	SHOGI	27	HP
5	North Zone	NALAGARH	59	HP
6	North Zone	PANIPAT	30	Haryana
7	North Zone	REWARI	53	Haryana
8	North Zone	BAHADURGARH	142	Haryana
9	North Zone	HISSAR	8	Haryana
10	North Zone	SHAKURBASTI	46	Delhi
11	North Zone	JAMMU IRD	33	J & K
12	North Zone	JALANDHAR	46	Punjab
13	North Zone	SANGRUR	43	Punjab
			1801	

10. GLOSSARY

ABS	Acrylonitrile Butadiene Styrene
AMC	Annual Maintenance Contract
CCOE	Chief Controller of Explosives
ESMS	Electrical Seal Monitoring System
GIS	Geographical Information System
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile Communication.
GUI	Graphical User Interface
HPCL	Hindustan Petroleum Corporation Limited
HSD	High Speed Diesel
INR	Indian Rupees
Kl	Kilolitre
Km	Kilometer
MS	Motor Spirit (Petrol)
RTO	Regional Transport Office
SMS	Short Messaging Service
SKO	Superior Kerosene Oil
SRS	System Requirement Specification
TOP	Tap Off Point
TT	Tank Truck/ Telegraphic Transfer
USD	US Dollars
VMS	Vehicle Management/ Monitoring System
VMU	Vehicle Mounted Unit

Procedure for GEO SURVEY

To carry the survey following things :-

1. Along with the client locations (Retail Outlets). Other petrol pumps like (BPCL/IOCL/IBP/SHELL/Reliance. Etc) are also to be captured. Other major landmarks near the road like temple, hospital, cinema, garden, chowk, school, collage, village etc must be captured properly with complete names with short address and category. The direction (left to right) of the above locations to the surveyed route must be specified. The number of waypoints in city/town should be minimum 1 per 100 meters. The number of waypoints in remote areas (on national, state, district, highways) should be 1 per kilometer.
2. Names of the major roads are captured properly on each route covered.
3. Survey Vehicle must return on the same route from where it will start, so that both sides of the road are covered.
4. Survey Vehicle must run on extreme left of the roads wherever possible.
5. Survey Vehicle must collect entry and exit points of all client petrol pumps. Also survey will enter the petrol pump and run till the last lane of the petrol pump so as to cover the entire area of any petrol pump.
6. Survey vehicle must run very slow at U turns/Circle, so that maximum number of points is collected.
7. The surveyed route should be geo-referenced and given in **(.shp)** format with projection as WGS84 (lat/lon). The shape file should be clean, continuous line representing surveyed route with direction.
8. The surveyed way points should be properly shown at appropriate geo-referenced location, name, address, category and side (left to right of the surveyed route)