RFP DOCUMENT

RFP for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of the Additional Director General of Police & Commissioner, Technical Services, Gujarat State Police, Gandhinagar, Gujarat

RFP.NO. GIL\H&N\ADGP (TS) – HD\MCOV\2016-17 – 2 **DATE: 20.02.2017**

Client: **The Additional Director General of Police & Commissioner, Technical Services, Gujarat State Police, Government of Gujarat, Gandhinagar**

Name of Work : Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of the Additional Director General of Police & Commissioner, Technical Services, Gujarat State Police, Gandhinagar, Gujarat

Last Date & Time of Bid Submission on https://gil.nrocure.com: 15.03.2017 up to 1500 hrs.

Un-priced Bid Opening:

Date & Time: 15.03.2017 at 1700 hrs.

Venue: **Gujarat Informatics Limited**
Block No. 1, 8th Floor, Udyog Bhavan,
Sector 11, Gandhinagar - 382 010

Bidding Agency Address:

Gujarat Informatics Limited
Block No. 1, 8th Floor, Udyog Bhavan,
Sector 11, Gandhinagar - 382 010
Phone No.: 079 - 232 56022,
Fax No.: 079 - 232 38925
Website: www.gil.gujarat.gov.in

Note: Please address all queries and correspondence to

Deputy General Manager (Technical)
Gujarat Informatics Limited,
8th Floor, Block No.1, Udyog Bhavan,
Sector 11, Gandhinagar 382 010
Phone No.: 079 - 232 59239
E-mail: viveku@gujarat.gov.in;

Invitation to the RFP

1. GIL - Gujarat Informatics Limited (A Government of Gujarat Company), On behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat invites Bids from the agencies for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat For this, GIL intends to select the agency by inviting the proposals through Open Tender Process.
2. GIL invites proposals from the companies / firms to provide the services as per the Scope of Work and Terms & Conditions mentioned in this RFP.
3. Interested companies may download the soft copy of RFP document from the website www.gil.gujarat.gov.in as well as https://gil.nprocure.com.
4. Interested agencies are advised to study this RFP document carefully before submitting their proposals in response to the RFP Notice. Submission of a proposal in response to this notice shall be deemed to have been made after careful study and examination of this document with full understanding of its terms, conditions and implications.
5. Interested and eligible Bidders are required to upload the Technical in technical bid section & Commercial Bid in commercial bid section. The Technical & Commercial Bid must be uploaded to https://gil.nprocure.com & the Bid Security and bid processing fees must be submitted to the office of Gujarat Informatics Ltd on or before the last date and time of submission of the bid.
6. The stage containing the eligibility criteria and the Bid Security & bid processing fees will be opened on the specified date & time in presence of the Bidders or their authorized representative who choose to attend. In the event of the date specified for bid receipt and opening being declared as a holiday for the office of Gujarat Informatics Ltd the due date for submission and opening of bids will be the following working day at the appointed times.
7. Any subsequent corrigenda / clarifications will be made available on http://gil.gujarat.gov.in & https://gil.nprocure.com. The Selection process of consulting firm will be a three stage process comprising Pre-qualification, Technical qualification and Commercial. The Selection of successful bidder would be done under evaluation method and procedures described in this RFP.

Bidders who wish to participate in this bid will have to register on https://gil.nprocure.com. Further bidders who wish to participate in online bids will have to procure Digital Certificate as per Information Technology Act 2000 using which they can sign their electronic bids. Bidders can procure the same from (n) code solutions – a division of GNFC Ltd., or any other agency licensed by Controller of Certifying Authority, Govt. of India. Bidders who already have a valid Digital Certificate need not procure a new Digital Certificate.

Important Dates & Details:

1	RFP Reference Number	**GIL\H&N\ADGP (TS) – HD\MCOV\2016-17-2**
2	Last Date & Time for Submission of Bids	**15.03.2017** up to 1500 Hrs.
3	Date & Time of Opening of Bids (Un-priced Bids)	**15.03.2017** at 1700 Hrs.
4	Date & Time of Opening of Commercial Stage	Will be intimated to the qualified bidders at a later date.
5	Venue of Opening of Bids	Gujarat Informatics Limited Bloc k No. 1, 8th Floor, Udyog Bhavan, Gandhinagar - 382 010
6	Bid Processing Fees (Non-refundable)	**Rs. 15,000/-**
7	Earnest Money Deposit (E.M.D.) (Refundable)	**Rs. 10,00,000/-**
8	GIL Contact Person	Deputy General Manager (Technical), GIL

Note: Please specify RFP Number in all your correspondence.

Introduction

Gujarat Informatics Limited (here in after referred to as "GIL"), on behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat invites offer through E-tendering for **RFP for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat.**

The works are to be completed on turnkey basis. Bidder will have to Supply, Install & Commission the same during warranty period, as per terms and conditions of the contract.

Unit cost is required to be offered for all the items and all the accessories as requested. GIL does not guarantee any fixed quantity at the time of signing the contract agreement.

Proposals are hereby called from the Bidders having capability and resources in supplying and setting up the Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat.

Proposal in the form of BID are requested for the item(s) in complete accordance with the documents to be uploaded as per following guidelines.

1. Bidder shall submit their bids on https://www.gil.nprocure.com.
2. Bid Security and non-refundable bid processing fees to be submitted in a separate sealed envelope super scribed with the bid document number to GIL office on or before due date.
3. The bid shall specify time schedule of various activities.
4. Bids complete in all respects should be uploaded on or before the BID DUE DATE.
5. Services offered should be strictly as per requirements mentioned in this Bid document. Please spell out any unavoidable deviations, Clause/Article-wise in your bid under the heading Deviations.
6. Beyond due date, the bidder will not be able to make any subsequent price changes, whether resulting or arising out of any technical/commercial clarifications sought regarding the bid, even if any deviation or exclusion may be specifically stated in the bid. Such price changes shall render the bid liable for rejection. However, GOG reserves the right to seek revised financial offer.
7. Bidder shall quote the prices as mentioned valid for **12 (twelve) months.**

Section - 1

Eligibility Criteria

Bidder's eligibility would be evaluated to assess their compliance to the following criteria. Bidders failing to meet these criteria or not submitting requisite proof for supporting pre-qualification criteria are liable to be rejected at the eligibility level:

Sr. No.	Eligibility Criteria	Attachment
1.	Bidder should be an established System Integrator and the bidder should be a company registered / Incorporated in India and should be in existence for at least last five years.	1. Work Orders/ Client Certificates confirming year and area of activity should be enclosed. 2. Certificate of Registration / Incorporation.
2.	The bidder must have sum total turnover of at least Rs. 100 Crores for the last **three** financial years as on 31st March, 2016.	1. Audited and Certified Balance Sheet and Profit/Loss Account of last 3 Financial Years should be enclosed. 2. CA certificate mentioning turnover and net profit of the bidder should be enclosed.
3.	The bidder should be an authorized partner of an OEM of the product / solution.	MAF/Certificate from OEM authorizing bidder to quote its product / solution.
4.	The bidder should not be under a declaration of ineligibility for corrupt and fraudulent practices issued by Government of Gujarat or any of the PSU in the state of Gujarat at the time of bidding.	Certificate / affidavit mentioning that the Bidder is not blacklisted by Government of Gujarat or any of the PSUs in the state of Gujarat due to engagement in any corrupt and fraudulent practices
5.	Bidder shall have executed at least three similar projects of Mobile Command & Control Vehicle integrated with Communication Equipments for State Police Department or Para-Military forces or Defence forces.	At least 3 Purchase Orders of minimum 1 Crore and corresponding Acceptance Letters from customer shall be submitted.
6.	Bidder should submit the certificate or declaration that the company/ SME unit has adequate capability in India for production/ manufacturing/ system integration for the product being procured or for similar products as well as the capability for maintenance and life cycle support for such product	Certificate / affidavit mentioning that the Company / SME unit has adequate capability in India for production/ manufacturing / system integration for the product being procured or for similar products as well as the capability for maintenance and life cycle support for such product. Self-Declaration Form must be submitted.

Note: All the details and the supportive documents for the above mentioned terms should be uploaded in eligibility section in the bid.

Section - 2

Background, Requirement and Scope of Work

1. Background:

Gujarat Informatics Limited (GIL) on behalf of the Additional Director General of Police & Commissioner, Technical Services, Gujarat State Police intends to add new capabilities in Gujarat Police fleet of Mobile Communication Office Vehicle (MCOV). This vehicle is conceptualized as a fully packaged communication solution to support law enforcement and public safety operations during planned and unplanned big events, law & order situations, crisis management of emergencies and disaster management. The communication technologies, command & work stations and ergonomically designed crisis management conferencing spaces in heavy duty modular body over a cab / tailor (or integrated vehicular platform) vehicle will be specified to augment or restore law enforcement / public safety first responders communication systems in area of deployment and also provide connectivity to distant Regional and State Command Center

2. Need / Requirement of the MCOV:

The proposed Mobile Communication Office Vehicle (MCOV) is intended to act as a Command Control & Communications resource for first responders, critical infrastructure and other organizations that have been affected by a catastrophic event and require mission critical networking to recover normal operations. The proposed MCOV shall be deployed in support of a variety of incidents including cyclone, floods, earthquakes, and other natural / manmade disasters. In a crisis situation it is imperative that field communications be highly mobile & rapidly deployable. The proposed MCOV is expected to meet the demands by being a self-contained vehicle in which all technology travels together as a preconfigured package.

Gujarat Police intends to select an agency for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) that can be deployed to provide the following:

- Rapidly deployable field mobile communications & enable communications via IP-based network
- Establishing & ensuring communication among first responders during a crisis situation i.e. to enable critical communications when normal infrastructure has been degraded or destroyed.
- Secured Wired and Wireless IP-based Data, Voice, Video (Surveillance & Teleconferencing), Radio Interoperability over satellite or other Internet backhaul like VSAT.
- Interoperate with existing communications systems while providing a path to emerging network-centric communications systems
- Communication from the incident crisis location to the outer world from any to any network i.e. for example Radio to PSTN, radio to mobile networks, etc.

3. Services expected from MCOV

The proposed MCOV shall be capable of providing following minimum indicative services:

1. Backhaul Connectivity
   a. Satellite Connectivity
   b. Cellular Connectivity
   c. Other Wired / Wireless connectivity
2. Services
   a. Wired & Wireless Data & VoIP Network
   b. Radio communication & its Interoperability – HF, VHF, UHF, 800 Mhz, HAM
   c. Video Surveillance
   d. Video Conferencing
3. Logistics
   a. Conference Room
   b. Operators area and engineering section
   c. Storage space for Radio sets (HF, VHF, UHF) and any other carried equipment
   d. Power equipments –Generator Set, UPSs and battery bank, shore charging facility

- The Proposed **Mobile Communication Office Vehicle (MCOV)** should be motor able on rough terrain and deployed outdoor in varying and extreme ambient conditions of temperature (0° C to 50° C) humidity (up to 95% RH) dust and corrosive environments. The vehicle chassis will be integrated with the shelter using U bolts so that drilling/welding over the Chassis is avoided. An intermediate bed made up of Mild Steel frame will be used to elevate the shelter, so that the Ladders and other fitments for supporting the Hydraulic Jack Power Pack, DG set, Extra fuel tank etc are supported for integration into the platform and shelter.

- The proposed vehicle should be capable of being mobilized to a crisis incident location & establish a reliable as well as secured wired & wireless network for the first responders at the crisis incident location where the normal communication infrastructure has been degraded or destroyed.

- The MCOV shall use an IP-based network foundation which would require a range of communication technologies to interoperate seamlessly with each other.

- The MCOV should be capable of setting up of - local secured wired and / or wireless network at the crisis location for seamless voice, data & video communications among the first responders at the site AND secured wired and / or wireless network for seamless voice, data & video communications from the first responders or MCOV at the site to other network (mobile, PSTN, Radio, etc) and vice versa.

- The MCOV shall have a backhaul connectivity of required bandwidth for all voice, video and data applications that need access to the internet or other remote networks from the incident location. The backhaul connectivity to the MCOV may be provided through Satellite (BGAN or VSAT bandwidth) and backup cellular connectivity. The dish antenna should be able to auto acquire capability of the control unit, which means that the vehicle crew can continue to operate other systems while the satellite is deployed or stowed.

- The core network of MCOV shall be provided by multiservice routers & highly resilient switches which can be configured to provide a number of different services on the vehicle such as secure virtual private network (VPN) tunneling services to back-end resources, firewall and other security services, telephony services using unified call manager, and controllers for the wireless network infrastructure. The networks on the vehicle shall be segmented appropriately to make sure of the security and quality of service.

- The MCOV shall have the wireless network services through WiFi access points within the vehicle & the WiFi access points installed on the mast to provide a wireless network outside the vehicle with appropriate range. For providing wireless network outside the vehicle, the wireless mesh access points shall be used on the external mast of the vehicle to provide significantly large wireless footprint. Outdoor wireless access points should be considered for this. Additionally, MCOV shall carry spare wireless mesh access points which can be configured to provide network access to a large geographical area.

- The MCOV shall have a fully furnished conference room, for the seating arrangement of 4 persons, facility with high definition video conferencing solution. The systems should also allow the incident commanders and other on-scene leadership to have secured high-definition, high-quality video conferencing and collaboration with remote personnel quickly and easily through telepresence systems or any other similar systems.

- The MCOV shall have an advanced Interoperability & Collaboration Systems which would provide a systematic approach to communications interoperability, operation and emergency management among multiple departments when needed. This systems should allow different types of radios (HF, VHF, UHF) operating on different bands and different protocols to interoperate with each other. These systems should allow radio to radio interoperability & should allow any voice device, whether it is a desktop PC, an IP phone, a traditional phone or a mobile phone to participate in radio communications.

- The MCOV shall have a video surveillance system to gather situational awareness of the field personnel and commanders by enabling them to observe nearby activities and to record or to retransmit that video for the benefits of others. This should enable clients, whether using a web browser or the surveillance client software, to monitor the feeds from anywhere on the network or from public internet with appropriate access controls in place. The MCOV shall also have a digital media encoder for encoding and streaming device, which should be capable of taking in video feeds and then record or stream the video in any number of formats for effective usage of available bandwidth.

- The MCOV shall have suitable pneumatic mast for hosting the required antenna systems at an appropriate height and also for installation of CCTV cameras.

The proposed MCOV is intended to have following sections:

1. **Vehicle Systems**

   The proposed **Mobile Communication Office Vehicle (MCOV)** should be capable of being mobilized to a crisis incident location & establish a reliable as well as secured wired & wireless network for the first responders at the crisis incident location where the normal communication infrastructure has been degraded or destroyed.

   The vehicle shall be broadly separated in to two sections – driver cabin section & other section encompassing engineering, command, utility & storage sections. The driver cabin section should have seating capacity of approximately five personnel including driver.

   The proposed **Mobile Communication Office Vehicle (MCOV)** can be transported on rough terrain and deployed outdoor in varying and extreme ambient conditions of temperature (0° C to 50° C) humidity (up to 95% RH) dust and corrosive environments. The vehicle chassis will be integrated with the shelter using U bolts so that drilling/welding over the Chassis is avoided. An intermediate bed made up of Mild Steel frame will be used to elevate the shelter, so that the Ladders and other fitments for supporting the Hydraulic Jack Power Pack, DG set, Extra fuel tank etc are supported for integration into the platform and shelter.

2. **Engineering Section**

   The MCOV shall use an IP-based network foundation which would require a range of communication technologies to interoperate seamlessly with each other.

   The MCOV should be capable of setting up of - local secured wired and / or wireless network at the crisis location for seamless voice, data & video communications among the first responders at the site AND secured wired and / or wireless network for seamless voice, data & video communications from the first responders or MCOV at the site to other network (mobile, PSTN, Radio, etc) and vice versa.

   a. **Backhaul connectivity**

      The MCOV is proposed to be connected to the rest of the world through a broadband channel, which will act as backhaul connectivity. This backhaul connectivity will be the crucial as the MCOV will share as well as received information i.e. voice, data & video with the central command & control centre or any other location as required. This backhaul shall be utilized to create a wireless network which caters voice, data & video services to the users in that region. The MCOV shall have a backhaul connectivity of required bandwidth for all voice, video and data applications that need access to the internet or other remote networks from the incident location.

      The backhaul connectivity to the MCOV may be provided through Satellite (BGAN or VSAT bandwidth) and backup cellular connectivity. The dish antenna should be able to auto acquire capability of the control unit, which means that the vehicle crew can continue to operate other systems while the satellite is deployed or stowed. The bidders are required to quote for the infrastructure required for Satellite (BGAN or VSAT bandwidth) & the recurring cost for the said connectivity, as mentioned in the RFP. Department shall apply for the required license for availing the Satellite (BGAN or VSAT bandwidth) connectivity & bidder has to facilitate for the same.

   b. **Networking, Switching & Security**

      The core network of MCOV shall be provided by multiservice routers & highly resilient switches which can be configured to provide a number of different services on the vehicle such as secure virtual private network (VPN) tunneling services to back-end resources, firewall and other security services, telephony services using unified call manager, and controllers for the wireless network infrastructure. The networks on the vehicle shall be segmented appropriately to make sure of the security and quality of service.

c. Radio Systems

The MCOV should have a provision of up to 10 radios to be plugged in & interoperate with each other. The radios shall be a mix of HF, VHF, UHF, Ham, etc. The system should allow the external group to plug in their radio set in the radio section which should be able to interoperate with other radios through the integrated communication systems regardless of their make, standards, protocols, etc.

d. Wireless Network

The MCOV shall have the wireless network services through WiFi access points within the vehicle & the WiFi access points installed on the mast to provide a wireless network outside the vehicle with appropriate range. For providing wireless network outside the vehicle, the wireless mesh access points shall be used on the external mast of the vehicle to provide significantly large wireless footprint. Outdoor wireless access points should be considered for this. Additionally, MCOV shall carry spare wireless mesh access points which can be configured to provide network access to a large geographical area.

e. Integrated Communications Systems

The MCOV shall use an IP-based network foundation which would require a range of communication technologies to interoperate seamlessly with each other. The MCOV shall have an advanced Interoperability & Collaboration Systems which would provide a systematic approach to communications interoperability, operation and emergency management among multiple departments when needed. This systems should allow different types of radios (HF, VHF, UHF) operating on different bands and different protocols to interoperate with each other. These systems should allow radio to radio interoperability & should allow any voice device, whether it is a desktop PC, an IP phone, a traditional phone or a mobile phone to participate in radio communications.

f. Video Surveillance

The MCOV shall have a video surveillance system to gather situational awareness of the field personnel and commanders by enabling them to observe nearby activities and to record or to retransmit that video for the benefits of others. This should enable clients, whether using a web browser or the surveillance client software, to monitor the feeds from anywhere on the network or from public internet with appropriate access controls in place. The MCOV shall also have a digital media encoder for encoding and streaming device, which should be capable of taking in video feeds and then record or stream the video in any number of formats for effective usage of available bandwidth.

3. Command Section

a. Conference Room

The MCOV shall have a fully furnished conference room, for the seating arrangement of 4 persons, facility with high definition video conferencing solution. The conference room shall have a large display screen.

b. Video Conferencing

The MCOV shall have a fully furnished conference room, for the seating arrangement of 6 persons, facility with high definition video conferencing solution. The systems should also allow the incident commanders and other on-scene leadership to have secured high-definition, high-quality video conferencing and collaboration with remote personnel quickly and easily through Video Conferencing systems or any other similar systems. The MCOV should also leverage the video conferencing systems, through which the personnel sitting within that MCOV can instantly initiate a HD based VC as & when required with government officials or other concerned departments at the time of utmost urgency. This functionality will significantly reduce turn around & decision making time when it is utmost needed.

c. Mobile DTH with TV

4. Utility Section

a. Power Systems

The power systems in MCOV shall include on-board power generator set as well as provision of shore power connection to which an external power connection can be provided wherever there is an availability of external power. The MCOV shall have power generator set along with the UPSs of required capacity for powering up all the equipments (IT & non-IT) installed in the MCOV. The MCOV shall be capable of arriving for disaster response missions ready for up to 3 days of continuous operations without refuelling it again.

The MCOV shall have provisions of powering its systems using its on-board generator, or a shore power connection to an external power source, wherever there is external power connection available.

b. Mast for installing Antennas, CCTVs etc.

The MCOV shall have suitable pneumatic mast for hosting the required antenna systems at an appropriate height and also for installation of CCTV cameras.

c. Display Screen (External) for demo / briefing

The MCOV shall have a large display which can be mounted on the outer-side of the vehicle. The said display can be utilized to carryout the showcasing / briefing or making presentation.

5. Storage Section

The MCOV shall have separate storage sections for storing spares like Radio Handsets, Portable Antenna systems, etc.

The MCOV shall also have provision of space for installation of additional mast (other than the one mentioned in this RFP) & additional subsystems. This additional space would be utilized for setting up an antenna system for the reception & transmission of data / video from any external source in the future.

6. Other requirements

a. The successful bidder shall provide warranty of 1 year for the all subsystems supplied & installed. The warranty shall start from the date of successful FAT.
b. The successful bidder is required to provide training (Technical, Functional & operational) on the MCOV & all the subsystems installed in it to the approximately 30 numbers of designated officers of Office of the ADGP (Technical Services), Home Department. The cost of the training shall be borne by the bidder.
c. The successful bidder shall provide the detailed documentation (Technical, functional & operational) of the vehicle & its subsystems installed in it.
d. The technical specifications mentioned in this RFP are minimum and indicative. Bidders may propose equipments & systems of higher specifications to meet the functionalities & features mentioned in this RFP documents.

Interested parties may view and download the tender document containing the detailed terms & conditions, free of cost from the website https://gil.nprocure.com. The bids are to be submitted as per procedure given in this document.

4. Intended Use of Equipment. The equipment being proposed for procurement will be used by Gujarat police for providing support to the state police force and their other allied forces, such as Fire Services, Medical units, Disaster Management operation, etc.

A. Important Parameters.

(a) The project is intended to be executed on 'Turnkey' Basis. The selected bidder will be required to supply all the enlisted equipment under a single contract on a turnkey basis.

(b) The brief minimum requirement of each equipment is enclosed. The firm shall provide additional information about the product to improve the Qualitative requirements

(c) The scope of supply of each equipment will encompass following:-

1. Pre dispatch inspection of the equipment at manufacturer's premises.
2. Delivery and Commissioning of the equipment at designated place.
3. Training of personnel for operation and maintenance.

(d) The firm shall provide information regarding feasibility / willingness to conduct FET in India. It shall also include modalities for the conduct of FET.

(e) The vendor shall confirm compliance with all provisions of requirement. In case of non compliance / Clause of non-compliance to be mentioned with reasons.

(F) The vendor shall mention delivery schedule for supply of the equipment after conclusion of contract.

(g) The vendor shall confirm acceptance of Gujarat Police payment terms.

(h) The Vendor shall also indicate his willingness for undertaking AMC for the equipment supplied by him on completion of warranty. Towards this, the vendor should indicate the warranty offered, scope and cost of AMC.

(I) The vendors are required to furnish following details during response

(i) Details of similar supply orders executed by them in the past.

(ii) Technical Specifications of the equipment being offered.

(iii) MOU/ Authorization issued by manufacturer, if not OEM.

(j) The vendor shall furnish additional details as deemed necessary.

5. Minimum Bill of Material

Serial No.	Product / Service Description	Qty.	Make & Model
A	**Mobile Communication Office Vehicle**		
1	Vehicle Chassis shall be from a reputed vendor like SML/Eicher/Tata/Ashok Leyland Wheel Base: More than 5000 mm, 6-tyre model Minimum Engine Output: BS IV CRDi 75Kw @2800 rpm Emission: Bharat Stage-IV Mechanical Fabrication Work as mentioned below: - Driver, Genset & Operator Cabin - Side Entry & Emergency Exit - Mast & Genset related Fabrication - Operator Cabin Interiors - Operator Cabin AC running on external diesel generator - Internal Power & Data Cabling along with external raw power outlet - Internal Wall & Floor fabrication - Roof Fabrication for DTH Antenna - Interior Furniture work for Storage racks, Video Display - Conference Area - 4 Operator Console	1	
2	6 KVA UPS System with Batteries for 1 Hr. backup	1	
3	5.5 KVA Petrol Generator with Cantilever mounts and accessibility from side of the vehicle	2	
4	Vehicle Integrated standalone Diesel Genset for the Operator Cabin AC	1	
5	MIL Std 19" 40U Rack with shock & vibration isolators for all electronic equipment	1	
6	MIL Std 19" 14U Rack with Integrated Operator Console with Dual 32" Display	2	
7	Pneumatic Mast 6M	2	
B	**Routing/Switching/Security Solution for MCOV**		
1	24 Port GigE Switch for MCOV	1	
2	3G/4G, VSAT Router for MCOV	1	
3	Firewall with IPS for MCOV	1	
C	**Integrated Communication System for MCOV & Police Control Room**		
1	Integrated Communication System	2	
2	Virtual or Physical server with Communication Software in High Availability (HA) setup	2	
3	Router with Required Chassis	2	
4	Rugged android phones with min IP67 Rating	4	
D	**Other Communication Equipment**		
1	Antenna Subsystems	As required	
2	Satellite Phone	1	
3	HF Radio	1	
4	HF Radio Manpack	1	
5	Backhaul Connectivity & related infrastructure	1	
6	BGAN Satellite Terminal	1	
7	VSAT Satellite communication on the Halt	1	

8	WI-FI Hotspot Antenna	1	
9	Real-Time Video Streaming Encoder with Storage	1	
10	Wireless Access Point for MCOV	1	
11	Wireless Access Point (External)	6	
12	IP Phone for Unified Communications (Wired)	2	
13	IP Phone for Unified Communications (Wireless)	6	
E	**MCOV Operation & Video Conferencing System**		
1	HD Video Conferencing Unit with High-resolution camera with 12X optical zoom, Codec and Microphone	1	
2	65"LED Full HD TV (Internal)	1	
3	55” High Brightness Display (External)	1	
4	Operator Workstation PC	3	
5	Ruggedized Laptop	5	
6	Ruggedized Tablets	5	
7	Ruggedized Mobiles	5	
F	**MCOV Periphery Video Surveillance System**		
1	Vibration Proof - Fixed Camera (4 Outside + 1 Inside) with external IR Lights	5	
2	Vehicle Mast Mounted PTZ Camera	1	
3	Non Line of Sight (NLOS), battery powered, body-worn Wireless Cameras with COFDM Transmitters and Antennas	4	
4	Non Line of Sight Wireless Receiver with display & recording capabilities to show the video feed from all NLOS Cameras	4	
5	Server based Network Video Recorder with Video Management Software & 16 GB storage	1	
6	24x7 Tethered Drone with gyro stabilized HD Camera Payload and the Ground control Station	1	
G	**Other MCOV Items**		
1	Mobile DTH Set-Top Box with Auto tracking Antenna for LIVE TV	1	
2	LED Flood Lights with 120 degree coverage (Mast Mounted)	2	
3	PA System with 4 Speakers	1	
4	All-In-One Heavy Duty Printer, Copier, Scanner & Fax	1	
5	GSM based Fax Modem	1	
6	Fire Extinguisher & First-Aid Box	1	
7	Vehicle Mounted Mini Refrigerator	1	
8	GPS Based vehicle tracking & Navigation	1	
9	Radio Test Set For Testing Analog & Digital radio	1	
10	Soldering & De soldering Station	1	
11	Communication tool kit	1	
H	**Project Management**		
1	Detailed 4-Day training on the MCOV and other sub-systems	1	
2	Integration, Testing, Installation & commissioning	1	

6. Technical Specifications for the Equipment

A. Mobile Communication Office Vehicle (MCOV)

6.1.1 Vehicle, Engine, Chassis & CAB structure

Vehicle, Engine, Chassis & CAB structure		
Sl. No.	**Technical Specifications**	**Compliance**
Chassis		
1	Bus Chassis shall be from a reputed vendor like Volvo/Isuzu/SML/Tata	
2	Wheel Base: More than 5000 mm, 6-tyre model	
3	Ground Clearance: minimum 200mm	
4	Overall Length: Not to exceed 11000mm	
5	Width: 2100mm	
6	Height: 2200mm	
7	Steering: Power Steering	
8	Brakes: Airbrake	
9	Fuel Tank Capacity: minimum 150 Lt.	
Engine		
1	Minimum Engine Output: BS IV CRDi or equivalent with minimum 75Kw @2400 rpm	
2	Emission: Bharat Stage-IV	
3	Fuel: Diesel	
4	The engine shall power the driver section AC. It will not be used to power any equipment in the vehicle.	
Vehicle Electrical System		
1	The vehicle shall be provided with 12/24 volts electrical system starting.	
2	Batteries shall be secured and well protected from against physical injury, vibration, and water sprays and engine and exhaust heat in an enclosed compartment well ventilated and batteries shall be easily accessible for examination, test and maintenance.	
3	The circuits shall be so designed that at no stage of operation overloading, overheating or short-circuiting and fluctuation of voltage is experienced.	
4	A built in battery charger shall be provided on the vehicle to maintain full charge on all batteries. Grounded AC receptacle shall be provided to permit a drive away plug connection from external electric power supply to battery charger.	
5	The electrical system shall be insulated, waterproofed and protected against exposure from ground fires.	
6	The effect of electromagnetic field of all electrical systems of Radio sets shall be suppressed so that it does not interfere with functioning of radio sets.	
Vehicle Equipment		

1	**The vehicle shall accommodate:** 1. Operator Consoles with video displays and operator workstations & Ruggedized laptops 2. Four Seater Conference Table 3. 2-Party Video conferencing system 4. VSAT Satellite communication for Backhaul. 5. Mobile Satellite DTH TV Set-top box with Antenna 6. Pneumatic Masts for a. PTZ Camera b. LED Flood Lights c. Camera Antennas 7. Generator for Electronics & Air Conditioning for Operations Area 8. Minimum 6KVA UPS with 1Hr Power backup 9. Shock mounted MIL grade 19" rack of minimum 32U of required storage space 10. Charging Stations for Cameras and Laptops 11. Electronic Equipment shall be appropriately modified and ruggedized for vehicle mounting. 12. All the electronic equipment shall be rack mounted 13. Integrated communication system 14. Satellite Phone 15. VHF, UHF, HF Base station & Handheld Radios. 16. NLOS Wireless Body worn camera 17. Wi-Fi Hotspot Antenna 18. Real-Time Video streaming Encoder 19. Multi-Function Printer	
Vehicle Structure		
1	The structure would be partitioned into three sections A. Driver Cabin B. Engineering Cabin C. Working Cabin	
2	Bus manufacturing shall be done as per Bus code AIS-052 to ensure the strength and safety features. All Interiors shall be of fire resistant material as per the bus code AIS-052.	
3	Bus Structure shall be of tubular design with GI coating which has 500 hr salt spray life, light weight and long life of 7 years, structure are co2 welded for better welding penetration and weld strength.	
4	The vehicle body shall be strong enough to support antennas & mast mounted with PTZ camera, LED Flood Lights.	
5	The Engineering & Working cabin shall be acoustically insulated to prevent noise, pollution, vibration and electronic induction.	
6	It shall have transparent windows as maximum as possible. Windows shall have privacy blinds/curtains.	
7	All glass used shall be photo chromatic, shatter proof safety glass.	
8	Inside the compartments it shall be Class “A” fire rated, smooth, seamless and impact resistant fiberglass interior wall and ceiling finish.	
9	It shall have non-skid commercial grade PVC flooring in continuous piece from front to back.	

10	The working & engineering cabin shall be air-conditioned with minimum power of 15KW. The AC shall be from a reputed company.	
11	There shall be storage for stationary files and other electronic equipment when not in use.	
12	Generator shall be insulated to reduce vibrations and noise in the Operator area	
13	Vehicle flooring shall have Marine Plywood and Aluminum sheet below. Vinyl flooring shall be provided in the Operator & Driver section.	
Driver Cabin		
1	Driver's Cabin shall be mounted on the forward part of the vehicle and shall provide seating for 2 persons i.e. Driver & co-driver.	
2	The vehicle shall be constructed such that a seated driver shall be able to see the ground minimum 5 meters ahead of the vehicle and 15 degrees above the horizontal without leaving seat. The vision in the horizontal plane shall be 90 degrees on each side from the straight position on a full forward control.	
3	Adjustable rear view mirrors with a glass shall be provided on each side of the vehicle. Each shall be provided with wide-angle convex mirror.	
4	It shall have flush type doors and grab handles on both sides.	
5	It shall be fitted with Global Positioning System (GPS).	
6	All chassis instruments and warning lights shall be grouped together on a panel in front of the driver to provide ready accessibility as well as high visibility for the driver seat.	
7	All instruments and controls shall be illuminated, with back lighting to be used where practical.	
8	Warning Lights should be installed at all corners of the front, back and sides of the roof with rustproof chrome base and flood lights at the middle of both sides.	
9	Driver cabin shall have AC driven by Engine	
10	The windshield shall be of shatterproof safety glass. Both front and rear cabins shall be provided with gutters to prevent water dripping on the wind shield and side windows. There shall be enough space to keep all the equipment and appliances.	
11	The following minimum equipment shall be provided in driver's cabin: Driver's seat with adjustment and seat belt Co-driver seat with seat belts Electronic Siren Interior lighting P.A. System with Microphone First-aid kit along with splinters and surgical scissors Portable fire extinguisher	
12	Vehicle shall be provided with rear parking camera and sensors.	
Engineering Cabin		

1	All the electronic equipment shall be housed in a 19" rack with the necessary power sockets. The electronic equipment shall be housed such that it is safely fastened when the vehicle is moving, and does not fall out. The list of electronic equipment that needs to be stored is part of the BOM. The rack shall be MIL Std. 19" with shock & vibration isolators for safety of electronic equipment.	
2	A suitably designed counter top running across the whole width of the electronic racks in the engineering cabin with seating and workstations for minimum two to three operators/ technicians.	
3	MIL Std 19" 14U Rack with Integrated Operator Console with 2x2 32" Display and Integrated rugged keyboard, track-ball/mouse shall be provided for two operators. The chairs (one in front of each set of 2 monitors) with swivel and fastened to the floor of the section.	
4	The monitors for the surveillance computers shall be mounted in such a manner that it is convenient for viewing by the seated surveillance personnel.	
5	All the electronic equipment will be powered through UPS power.	
6	Power control panel to be situated on a side wall of the engineering section.	
Working Cabin		
1	The working cabin would have conference table with seating for 4 person.	
2	The working cabin to have large video display for viewing the conference and surveillance video feed.	
3	Officers should be able to communicate	
Electrical		
1	The electrical sub-system in the vehicle shall allow power to be drawn from the generator or external raw power available at operations site. Accordingly, MCBs, change-over switches, and other equipment shall be installed to make this possible. Industrial Raw AC Power socket to be supplied and installed externally.	
2	The vehicle shall have electrical cabling to power computer systems, telecommunications equipment, networking equipment, and surveillance equipment. Concealed ducting needs to be provided in the vehicle body, for electrical and network cabling. The duct panels should be easily accessible by a technician, for maintenance purposes.	
Lighting		
1	Each workstation area should be well-lit. LED Lights shall be provided in the Driver, Mast and Operations Cabin. Each cabin to have one smaller LED Light powered by Vehicle Battery. Balance to be powered by UPS.	
Power Generation		
1	The power generation shall happen thru the 10KVA genset (or two units of 5.5KVA) unit installed inside the vehicle or when available the power shall be drawn from the raw power available at the site. AC for the working & engineering cabin of the bus shall be powered from the standalone Diesel genset installed inside the vehicle.	

2	The Genset shall be accessible from the side of the bus and shall be protruded outside the vehicle chassis on the cantilever railings. The exhaust from the genset shall be properly routed outside the vehicle body. There shall be separate standalone Diesel genset to power the Air Conditioning of the whole vehicle.	
3	The power to the electronic equipment shall be given thru the 6KVA UPS. The generator power should be routed through the UPS, for charging the batteries. The UPS and the generator should be accommodated inside the vehicle	
General		
1	There shall be sufficient scope for minor variations to be made in these modifications during the phase of development.	
2	All the above interior modifications and the color combinations shall be done as per the overall guidance of the user.	
3	Emergency lighting: In addition to the legally mandated lights/ warning lights the MCOV will have LED Blue and Amber flashing light bar, Amber/Blue flashing light in grill, Amber/ Blue flashing light on side front fender, Amber/Blue flashing lights installed on each top side of the box with one forward and one rearward; Amber/Blue flashing lights installed on the back of the vehicle.	
4	Vehicle External Painting shall be done based on Police's recommendation and there shall be toughened Window glass Fitting.	

6.1.2 6KVA UPS

Sl. No	Classification	Description	Compliance
1	UPS	UPS: To supply power to the electronic equipment in the Vehicle for up to 60 minutes.	
		1 phase input – 1 phase output UPS	
		LCD panel information	
		Rating: 6 KVA	
		Peak Efficiency: > 80%	
		Operating Temperature: 0 – 40 ^{o}C	
2	UPS Battery	SMF batteries with deep discharge technology	
		Battery type: SMF	
		Powers 6 KVA UPS for up to 60 minutes	
		Fully-sealed construction	
		Nominal Voltage: 12V	

6.1.3 5.5KVA Petrol Genset Subsystem

Sl. No	Classification	Description	Compliance
1	Generator-set to power the electronic equipment, accessories, and lighting	Petrol Genset: To supply power to the equipment in the Surveillance Section (2 gensets to work in tandem)	
		Starting System: Recoil / Electric	
		Rated output (50 Hz): 5.5 KVA	
		Rated voltage @ 50 Hz: 230	

		Continuous Operating Time: 4.4 hrs. at full capacity	
		Fuel Tank Capacity: 8 Ltr. (minimum)	

6.1.4 Standalone Diesel Genset for Air Conditioning

Sl. No.	Classification	Description	Compliance
1	Type	VERTICAL CYLINDER, 4-CYCLE WATER-COOLED DIESEL ENGINE	
2	Combustion	Indirect Injection	
3	Max. Output	17.6 KW	
4	Engine rated Speed	3600 RPM	
5	Displacement	0.854 Ltr	
6	Bore x Stroke	70 x 74 mm	
7	Cylinders	3	

6.1.5 MIL standard Ruggedized Rack & Operator Consoles

Sl. No.	Description	Compliance
1	MIL Std 19" 40U Rack with shock & vibration isolators for all electronic equipment	
2	2 Nos. of MIL Std 19" 14U Rack with Integrated Operator Console with Dual 32" Display and Integrated rugged keyboard, track-ball	

6.1.6 Pneumatic Mast

Pneumatic Mast Specifications (For Radio/WI-FI Antenna, PTZ Camera & LED Flood Lights)			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Erected Height	6M from the vehicle floor	
2	Retracted Height	2 meter	
3	Operational Wind speed	80Kmph	
4	Deployment Wind speed	40Kmph	
5	Type of Mast	Pneumatic	
6	Weight of Mast	Less than 100Kg	
7	Support	Self	
8	Rotation	Stationary	
9	Mount	Vehicle Mount	
10	Head Load	40Kg	

B. Routing, Switching, Security Solution for MCOV

6.2.1 24 Port GigE Switch

24-Port GigE Switch for MCOV

Sl. No.	Minimum Required Specifications	Compliance (Yes/No)
1	19" Rack Mountable stackable switch with min 24 Nos. 10/100/1000 copper input POE (15.4W) ports and additional support of 4x1G SFP, support for external/internal redundant power supply.	
2	Switch should support for minimum 96 Gbps of forwarding throughput & minimum 70 mbps forwarding rate	
3	The switch should support dedicated stacking port separate from uplink ports with 56 Gbps of stacking bandwidth to put minimum 8 switches into a single stack group.	
4	Switch should have static, default IP routing enabled from day one.	
5	Switch shall have IEEE 802.3ad Link Aggregation Control Protocol (LACP) with up to 8 links (ports) per trunk.	
6	It shall have IEEE 802.1s Multiple Spanning Tree Protocol and provide legacy support for IEEE 802.1d STP and IEEE 802.1w RSTP or equivalent technology and static routes.	
7	Switch should have feature to protect access ports using port security, TACACS/TACACS+, Radius, storm control, Access Control List both port, vlan based.	
8	Switch should have queuing as per IEEE 802.1P standard on all ports with mechanism for traffic shaping and rate limiting features for specified Host, network, Applications etc. Switch should also support cross-stack QoS.	
9	Should have Power supply 230 Volt 50Hz input	
10	The switch should support IPv6 Guard, IPv6 RA-Guard, IPv6 DHCP-Guard, Source-Guard features	
11	Switch should support automated image installation, configuration & automatic configuration of per port QoS to reduce switch provisioning time & effort.	
12	Must have SNMP v1, v2, v3 from day one	
13	Should have CLI and GUI based management console port.	
14	The switch should support IEEE 802.3az from day-1	
15	The Router should be NDPP or EAL3 certified at the time of Bidding	

6.2.2 VSAT/3G/4G WAN Router

	VSAT/3G/4G WAN Router for MCOV	
Sr. No.	**Minimum Required Specifications**	**Compliance (Yes/No)**
1	The router should support IP routing, IP multicast, QoS, multiprotocol label switching (MPLS), VPNs and redundant power supply.	
2	Routers should have at least 1 or more free slots for LAN or WAN modules after populating all interfaces. Router should have minimum 4 GB of DRAM/RAM & should support increasing of flash/compact flash size up to 12 GB or more to hold multiple image, data etc.	
3	Router should have minimum 3 L3 WAN ports out of which minimum port should have SFP insertion capability. Router should have support for E1, Chn E1/ Fractional, Serial V.35, G.703, 3G/4G module, FXS, FXO,E&M, E1 voice PRI with Qsig signaling etc. Router must support connectivity towards VSAT CPE over Ethernet as well as insertion of 3G/4G modules so that while the vehicle is on the move, it can latch onto Service Provider network via 3G/4G module.	
4	The router should have a minimum performance of 100 Mbps or more	
5	The router shall support adaptive routing adjustments by doing routing path selection based upon advanced criteria like Response time, packet loss, delay, jitter and traffic load to intelligently control the traffic to 21aximize the quality of the user experience.	
6	Routers should support marking, policing and shaping	

7	Ipv4 and Ipv6 enabled from day one	
8	HSRP/VRRP, Static Routes, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGP4, MBGP, BGp route reflector, BFD, Policy based routing IGMP V1/V2/V3, PIM-DM, PIM-SM enabled from day one	
9	Should support extensive support for SLA monitoring for metrics like delay, latency, jitter, packet loss	
10	Support for accounting of traffic flows for Network planning and Security purposes	
11	Should support extensive support for SLA monitoring for metrics like delay, latency, jitter, packet loss,	
12	Routers should support SNMPv2 and SNMPv3	
13	Routers should support Software upgrades	
14	Extensive debugs on all protocols	
15	Shall support Secure Shell for secure connectivity	
16	Should have to support Out of band management through Console and an external modem for remote management	
17	Pre-planned scheduled Reboot Facility	
18	Real Time Performance Monitor – service-level agreement verification probes/alerts	
19	The router should have support to select the best available path/route for traffic forwarding from day one. The best available path should be selected based on Jitter; Latency & packet drop in addition to traditional routing protocols. External hardware based solution must be proposed to meet the requirement in case router does not have this functionality natively. Bidder must ensure that the proposed solution is automated & no manual intervention is required during operation.	
20	Router must support automatic IPsec tunnel for enabling security for department/user traffic. Hub to spoke and spoke to spoke automatic IPSEC tunnel should be created over ISP MPLS links to encrypt the traffic as per traffic requirement. These tunnels should be based on standard like NHRP, IPSEC, GRE and MPLS over GRE. Router should be Zero-touch configuration for addition of new spokes and automatic site-to-site IPsec tunnels. Tunnel creation should be On demand and has to be transport agnostic.	
21	The Router should support for WAN optimization in software level with support for TFO (Transport Flow Optimization), LZ (Lempel Ziv) compression, DRE (Data Redundancy Elimination), Http & https based application specific optimization. It also should provide application optimization for services such as file sharing, mail, MS, oracle, SAP.HTTP etc.	
22	Router must provide interface to connect to UHF/VHF base stations via standard E&M/FXO/FXS port. Based upon site survey no of such ports to be quoted.	
23	Router must act as IP PBX incase the WAN/VSAT/3G/4G link goes down & the connectivity towards the central command control room is lost so that local IP phones can register to the local router itself.	
24	The Router should be NDPP or EAL3 certified at the time of Bidding	
25	All necessary SFP's, interfaces, connectors, patch cords (if any) & licenses must be delivered along with the Router from day one.	
26	The Router should be 19" Rack mountable & should be supplied with Indian standard AC (5Amp) power cord.	

6.2.3 Firewall with Intrusion Protection System (IPS)

Firewall with IPS for MCOV		
Sr. No.	**Minimum Required Specifications**	**Compliance (Yes/No)**
1	It must allow administrators to create Firewall policy by application, active directory users/groups and content.	
2	It must be appliance based, have at least 4 no's of 1G interfaces and capable of	

	clustering with seamless failover.	
3	The firewall must support a minimum bandwidth of 1Gbit	
4	Should support at least 100,00 new connections per second	
5	Should Support at least 100,00 new connections per second	
6	It must support custom threat prevention and application signatures.	
7	It must support multiple logical firewalls on the same hardware platform. (A minimum of 2 logical firewalls is expected).	
8	It must support off the box logging in addition to having integrated reporting and monitoring capabilities.	
9	It must have integrated troubleshooting tools and utilities. (i.e. packet capture, trace route, ping, etc.)	
10	It must be able to perform automated updates of signature, content matching and/or classification data.	
11	It must provide zero down time software upgrades.	
12	It must support site to site VPN using IPSEC.	
13	It must support client based VPN using SSL/TLS for remote users.	
14	It must support the authentication of users via different Active Directory domains.	
15	It must be capable of identifying and controlling both UDP and TCP based applications.	
16	It must provide granular access controls within web applications to control access within the application where possible.	
17	It must provide a configuration audit capability. (The Configuration Audit capability is expected to be in-built in the firewall appliance. If this capability is not built-in the firewall appliance, then bidder can provide a separate tool for it.)	
18	It should perform all of the scanning and identification processes in a single pass	
19	The licensing model should be appliance based	
20	It should contain role/discretionary based administration function to provide for separation of duties for administrative access and control	
21	It should provide a captive portal capability	
22	It should provide compliance reporting as per industry standards like ICSA or NDPP or equivalent global standard	
23	It should provide IPv6 support.	

Intrusion Prevention System (IPS) Capabilities		
Sr. No.	**Minimum Required Specifications**	**Compliance (Yes/No)**
1	Firewall & IPS solution can be combined together. In MCOV, space will be a constraint hence such solution is asked. However, if any bidder wants to propose a standalone IPS, it will be accepted provided the dimension should only be of 1RU.	
2	Should have the capability of passively gathering information about virtual machine traffic, network hosts and their activities, such as operating system, services, open ports, client applications, and vulnerabilities, to assist with multiple activities, such as intrusion event data correlation, elimination of false positives, and policy compliance.	
3	Should be capable of dynamically tuning IDS/IPS sensors (e.g., selecting rules, configuring policies, updating policies, etc.) with minimal human intervention.	
4	Should be capable of automatically providing the appropriate inspections and protections for traffic sent over non-standard communications ports.	
5	Should be capable of detecting and blocking IPv6 attacks.	

6	The solution must provide IP reputation feed that comprised of several regularly updated collections of poor reputation of IP addresses determined by the proposed security vendor	
7	The proposed IPS must perform protocol decoding and validation for network traffic including: IP, TCP, UDP, and ICMP.	
8	Should support Reputation- and category-based URL filtering offering comprehensive alerting and control over suspect web traffic and enforces policies on more than 280 million of URLs in more than 80 categories.	
9	Should support safe search for YouTube EDU enforcement	
10	Solution must be capable of passively gathering details unique to mobile devices traffic to identify a wide variety of mobile operating systems, mobile applications and associated mobile device hardware.	
11	Should support more than 4000 application layer and risk-based controls that can invoke tailored intrusion prevention system (IPS) threat detection policies to optimize security effectiveness.	
12	The detection engine should support capability of detecting and preventing a wide variety of threats (e.g., malware, network probes/reconnaissance, VoIP attacks, buffer overflows, P2P attacks, etc.).	
13	The detection engine must incorporate multiple approaches for detecting threats, including at a minimum exploit-based signatures, vulnerability-based rules, protocol anomaly detection, and behavioral anomaly detection techniques. Identify and explain each type of detection mechanism supported.	
14	Should support Open based application ID for access to community resources and ability to easily customize security to address new and specific threats and applications quickly	
15	Combined Firewall with IPS throughput should be minimum of 200 Mbps. If some bidder propose standalone IPS, then the throughput should also be 200 Mbps.	
16	The IPS should support Active/Active or Active/Standby High Availability feature.	
17	IPS should have the functionality of Software Fail Open. (The fail open feature will be enabled/disabled based on the GoG's requirement. However, the IPS Should support for both enablement & disablement of this feature. For integrated Firewall with IPS solution, this clause is optional.	
18	IPS should have the functionality of Software / Hardware Fail Open.	
19	The IPS should support Active/Active or Active/Standby High Availability feature.	
20	IPS solution must be capable to detect device failure, link and path failure	

C. Integrated Communication System for MCOV & Police Control Room

6.3.1 Integrated Communication System to patch various Communication technologies

Interoperable communication Solution		
Sr. No.	**Minimum required specifications**	**Compliance (Yes/No)**
1	Solution should be open-standards-based for communications interoperability.	
2	Solution should provide features for users to join PTT talk groups from IP Phones, any type of radio, iPhone, iPad, Android devices and laptops with client software.	
3	Command and Control Operator / administrator should have interface to include users to groups, creating new talk group or conference, making scanning Virtual Talk Groups, setting up broadcast group's right from their smart device.	

4	The system shall create virtual talk groups (VTGs) to facilitate Push-to-Talk (PTT) communications between users of multiple types and technologies of Land Mobile Radios	
5	The system shall provide a High Availability option of adding a secondary hot standby server to provide high availability with no single point of failure. If a primary server fails, the secondary server automatically takes over service without communication interruption. The servers can be geographically separated or located together.	
6	It will be preferable if all modules shall be supplied from a single manufacturer	
7	The system shall provide Loop Prevention: As multiple dispatchers patch channels together, there is always the possibility of creating a channel loop that causes audio.	
8	The system shall provide radio pooling to enable the system administrator to group dispatch radio assets together into logical radio pools. Dispatchers, when accessing specific radio channels, may select specific channels or talk groups. System shall then locate a radio asset and performs tone/serial control without user intervention.	
9	The system shall provide a web service API to integrate System with third party applications, such as Command and Control, Physical Security Information Management	
10	The system shall support role-based management to provide compartmentalized functions for personnel who need to perform different roles. When personnel are added to the system, they shall be assigned a role that defines access privileges. The system shall be able to change user profiles at any time. The following roles, including an "all roles" assignment, shall be supported: Administrator, Dispatcher, Operator, User.	
11	Solution should have mobile client for IOS and Android to Access incident and to communicate between responders and radio users.	
12	The system shall enable PTT functionality on select models of IP Phones, allowing users to communicate over and monitor broadcast of communication channels with a push of a button.	
13	The System Server shall provide an audit trail for analysis, critique, and operations management.	
14	The system shall provide a powerful and easy-to-use Web interface: Authorized personnel shall be able to access the System Server from any location by using a supported browser and a network connection.	
15	The system shall provide a High Availability media mixing option of adding a secondary hot standby server to provide high availability with no single point of failure. If a primary server fails, the secondary server automatically takes over service with minimum communication interruption. The servers can be geographically separated or located together.	
16	System Server software shall include, as a minimum, the following features: A. Ability to have a patching function B. Ability to simultaneously select multiple channels at the same time to make a dispatcher outbound Push to talk to all selected channels C. Ability to administer virtual talk groups (VTG). The VTG's shall be capable of being activated and deactivated by the dispatcher or from an external system such as CAD. D. Ability to authenticate between all servers connecting to the system using certificated based PKI methods.	
17	Dispatch console should be capable to Invite notifications: Dispatchers can quickly invite users to join a System VTG with an Invite Notification. The dispatcher can select some or all members of a VTG and, at the touch of a button, initiate an action to notify or dial participants.	

18	Dispatch console shall have a directory for phone number lists. There shall be a global, local, and personal list (associated to that user only).	
19	Integrated telephony interface: This feature enables personnel using landline and mobile phones to join a VTG, PTT interoperability conference between disparate land mobile radio systems, PSTN phones, IP phones, and PC clients.	
20	The System Dispatch Console shall integrate with any analog or digital radio system, enabling dynamic any-to-any PTT communications.	
21	Dispatch console shall have the ability to tear away the parts of the Graphic User Interface (GUI) so that they can be dragged to other screens. The dispatcher can also attach the screen back to the original setting where all the functions are in one application screen.	
22	The GUI shall provide access to all dispatch features, including: o PTT and monitor up to 50 talk groups per System Dispatch Console o Channel patching o Integrated telephony client for incoming and outgoing calls o Radio to telephone patching o Receive and transmit on-screen indicators for channel activity o Handset, headset, or desktop microphone operation o Individual channel mute/All mute o All talk o Instant recall recording per channel o Alert tones o Channel multi-select o Unit ID/talker ID o Emergency alert/acknowledge o Coded/clear channels	
23	The System Dispatch Console shall provide rich media incident management support, giving dispatchers the ability to consolidate information relating to an incident and instantly share it among participants, enabling the sharing of multimedia data such as the following: a. Live video sent from surveillance cameras, access control gateways, and mobile clients b. Archived videos such as YouTube c. Photos d. Alarm monitoring e. Journal and live statuses f. Website links to resources such as FEMA and hazardous material databases, standard operating procedures, and maps	
24	Solution should include 3 rugged android phones with following capabilities : Phones should comply for ruggedized environment, ruggedized Handset with IP68 rating , plastic plus fiber housing material and having tamper/break resistance of upto 26 drops on concrete from 2 meters. Screen should also be drop resistant. Handset should have Android OS with PTT Application and with touch screen (4" min, Blanview, sun-readable) to support glove and wet fingers capacitive multi-touch. Handset should support multimedia exchange (voice, video and data) for two way data exchange between mines and Command Centre. The ruggedized phone should also have inbuilt camera to enable dynamic image/ video recording for incident recording and transmission. The phone should have 20+ hrs talk time and 1000+ hrs stand by time.	
25	System should support following infra from day one 1 Number of radio channels- Qty 8 2 Number of IP Phone and PSTN/ GSM user- Qty 20 3 Number of talk group/conferences- Qty 10 4 Number of rugged android phones- Qty 3 5 Should handle simultaneous call (Dial port)- Qty 20	

26	System Capacity	The digital console dispatch system shall be capable of supporting as many as 30 non-blocking ports, consisting of up to 16 operator positions, with the remaining ports available for external interfacing. The system shall be scalable to support a few operator positions operating in a fixed or mobile environment and accessing a small number of communications resources to 16 positions operating in an integrated dispatch or call-taking environment and accessing multiple resources	
27	System Architecture	The console dispatch system shall employ an end-to-end digital architecture from the resource interfaces to the operator workstations that is capable of integrating in a single switch all radio and telephone voice communications. The system shall offer resilience to failures.	
28	Dispatch workstation and User Interface	Dispatch workstations shall consist of an operator control unit to manage all audio and data communications between the operator position and the switching equipment, and a Windows-based personal computer (PC) to provide operators access to and control of system resources and functions. Workstation PCs shall run under the Microsoft Windows operating system Each workstation shall be equipped with a touch panel based display, keyboard, mouse or trackball, external or embedded speakers, and associated input and control devices (headsets, handsets, microphones, footswitch, dual jack boxes, etc.) as described elsewhere in this tender document	
29	Radio Interface Support	The system shall support various trunking and wireless interfaces including 4 wire E&M, EIA Tone Remote Control, Mototrbo® , Nexedge® , MPT, TETRA and iDEN.	
30	Signaling Protocols	The system shall support various signaling protocols including tone remote control, DTMF, SELCAL and VOX detect.	
31	Telephony Protocols	The system shall support various telephony protocols including 2-wire POTS and PSTN/PABX and GSM Modems	
32	Instant Recall Recorder	Each dispatch workstation shall be capable of being equipped with hardware and/or software-based instant recall recorders (IRR). A software-based IRR shall be a Windows application capable of recording all operator audio in standard WAV file format and offering immediate playback and short-term storage of operator audio communications. It shall be possible to store audio WAV files on the workstation PC, network server, and/or on a network storage device (e.g., CD-RW). The ability to play back a call shall not be limited by the availability of the network or a system-wide recording device.	
33	Dispatch Console User Interface	The console dispatch system shall include a Windows-based user interface (UI) application that gives operators access to and control of system resources and functions. The UI application shall run on the workstation PC and shall be configurable to provide the specific functionality needed for an operator to perform his/her duties.	

		The UI shall present the various line and function controls using icons representing traditional screen-based buttons whose appearance can be configured according to location on the screen, size, color, labeling (font style and color), and image (bitmap). In addition, operators shall be able to access multiple screens presenting different line and function controls simply by clicking on tabs that, when selected, present new resource views. The appearance (color, font, three dimensional effects) of buttons will change as required to indicate the state of the line or function to the operator (e.g., selected line, activity on a channel, etc.).	
		The UI shall include embedded windows that allow operators to access and display intranet and/or internet HTML pages and to navigate Web-based resources, subject to administrative control.	
34	Channels	The Integrated Dispatch Console System shall support 4 Radios (UHF/VHF/HF) and one GSM connection	
35	System Diagnostics & Reporting	The console dispatch system shall provide the means to monitor system diagnostics via the configuration software. In addition, LEDs on the DSU will supply diagnostic information.	
36	Configuration Software	Configuration software shall be provided that runs on a Windows-based PC (XP/W7) that can be interfaced to the electronics directly. The software shall be used to configure the system and to monitor the status of system alarms.	

D. Other Communication Equipment

6.4.1 Antenna Systems for HF, VHF, UHF Radio Communications

The detail of the existing radios used by Police Department is mentioned in the Annexure. The bidder is required to provide required antenna systems with appropriate power & transmission capabilities for operating existing HF, VHF, UHF Radios, etc.

6.4.2 Satellite Phone

Satellite Phone			
Sl. No.	**Classification**	**Description**	**Compliance**
	General	Dependable connectivity High quality voice Rugged design Assistance button and GPS tracking Extended battery capacity Incoming call alerts even with antenna stowed	
	Satellite telephony	2.4kbps voice codec	
	Text-to-text	160 Latin / ~74 non-Latin characters Up to 10 concatenations Standard and predictive text	
	Text-to-email	160 Latin / ~74 non-Latin characters Up to 10 concatenations Incoming email – 160 Latin characters / ~74 non-Latin characters	
	GPS location data	View position Send as text/email	
	Features	Tracking Assistance button eCompass for enhanced pointing Alarm Minute minder Microphone muting Incoming call alerts with antenna stowed Speakerphone Bluetooth	
	Supplementary voice service	Call history Caller ID Call waiting Call divert Call holding Conferencing Call barring Speed dialling Fixed number dialling	

6.4.3 HF Radio

HF Radio Set for MCOV			
Sl No.	**Classification**	**Description**	**Compliance**
GENERAL :			
1	Frequency Range	2.0 MHz to 29.9999 MHz with 100 Channel Spacing and 10 Hz Resolution.	
2	Modes	Single sideband (J3E), USB, LSB, AM (H3E), CW (J2A), AFSK (J2B), ISB (option), F1B (FSK)	
3	Pre-set	200 Channels or more	

4	Frequency stability	±0.3 PPM or better	
5	Built-in-test	Front panel testing.	
6	Input Power	+12 V DC Nominal (10.8 V to 14.4 V) & 230 V AC	
7	Weight	Less than 5 KG	
8	Antenna Impedance	50 Ohm balanced	
9	Protection	(i) Reverse Polarity protection (ii) Protection against high VSWR	
10	Headphone Impedance	150 Ohm/300 Ohm/600 Ohm	
11	Cooling	Convection from case	
12	VSWR	Better than 1.5	
13	Visual Display	Front panel LCD display	
14	Interface	RS-232	
15	Programming	PC programming software and front panel programming	
16	Communication Security (Optional)	Encryption (In-Built) 256 AES for voice	
TRANSMITTER			
1	RF Power	20 to 125 W PEP (Low, Medium, High) (user programmable)	
2	Spurious Emission	≤ 40 db below PEP	
3	Side Band Suppression	≥ 70 db or better	
4	Carrier Suppression	≥ 40 db or better	
5	Intermodulation distortion	30 db min. below PEP	
6	Audio Response	Within 6 db from 350 Hz to 2700 Hz.	
7	Side Tone Level	Better than 0.1 mW into 150 Ohm load for 5 mV of audio input at 1 KHz	
RECEIVER :			
1	Receiver Sensitivity	-111 dbm for 10 db SINAD or better	
2	Image Rejection :	≥ 70 db or better	
3	IF Rejection	≥ 70 db or better	
4	In band Inter modulation Distortion	35 db min. below PEP	
5	Audio Response	Within ±6 db from 350 Hz to 2700 Hz	
6	Audio Output :	1 W across loudspeaker or more	
7	A/F Harmonic Dist :	≤ 25 db or better	
ENVIRONMENTAL			
1	Operating Temperature	-30°C to +55°C	
2	Storage Temperature	-30°C to +60°C	
3	Humidity	95% non-condensing (-20°C to +60°C)	

FEATURES			
1	Selective calling	Digital FSK coding (4/6 digit select call)	
2	Scanning	5 Channels per second or better	
3	ALE (2G/3G)	Complying MIL-STD-188-141B	
4	Flash messages	Predefined messages	
5	GPS Interface :	Inbuilt with GPS tracking software	
6	RS-232 Control	The Radio set should have capability to operate at 9600 baud Rate or better to support data functionality with necessary software support for email functionality.	
7	Radio kill/un-kill	Should have kill/un-kill function	
8	Audio input sockets	Mic and internal socket	
9	Squelch	High quality syllabic squelch	
10	Push to talk	Suitable Microphone to be provided.	
11	Audio socket	Suitable head gear should be provided	
12	Vocoder (Optional)	MELP/ACLP (1200/2400 bps)	
13	DSP Processor Functionality	Suitable inbuilt DSP processor functionality to minimize interference and noise in received signal.	
14	Crosspatch device	Cross patch device to make VHF/HF cross communication possible.	
Essential Radio Accessories:			
1	Whip Antenna		
2	Long Wire/Broadband dipole Antenna		
3	OEM Power supply unit		
4	Backpacks (Carrying Harness)		
5	Service manual complete (Soft Copy)		
6	GPS Antenna		
7	System Programmer CD		
8	Data modem compatible with HF set with minimum 9600 bps data speed		
Specification of Mobile (Vehicle) Antenna with Automatic Tuner			
Description			**Compliance**
1	Frequency Range		
	Primary Whip Top	Transmit Operation: 2 – 30 MHz	
	Secondary Whip Top	Transmit Operation: 2.5 – 30 MHz	
2	Power Rating	125 Watts PEP (Voice)	
3	Power consumption		
	Static	150 mA	
	Tuning	1 Amp	
4	Input Impendence	50 Ohm: VSWR typically 1.5:1	
5	Temperature	-40º to +60ºC	
6	Tuning speed	Typically 2 Seconds	

6.4.4 HF Radio Manpack

HF Radio Set for manpack

Sl No.	Classification	Description	Compliance
GENERAL :			
1	Frequency Range	2.0 MHz to 29.9999 MHz with 100 Channel Spacing and 10 Hz Resolution.	
2	Modes	Single sideband (J3E), USB, LSB, AM (H3E), CW (J2A), AFSK (J2B), ISB (option), F1B (FSK)	
3	Pre-set	200 Channels or more	
4	Frequency stability	±0.3 PPM or better	
5	Built-in-test	Front panel testing.	
6	Input Power	+12 V DC Nominal (10.8 V to 14.4 V) & 230 V AC	
7	Weight	Less than 4 KG	
8	Antenna Impedance	50 Ohm balanced	
9	Protection	(i) Reverse Polarity protection (ii) Protection against high VSWR	
10	Roles	Manpack	
11	Headphone Impedance	150 Ohm/300 Ohm/600 Ohm	
12	Cooling	Convection from case	
13	VSWR	Better than 1.5	
14	Visual Display	Front panel LCD display	
15	Interface	RS-232	
16	Programming	PC programming software and front panel programming	
17	Communication Security (Optional)	Encryption (In-Built) 256 AES for voice	
TRANSMITTER			
1	RF Power	5 to 25 W PEP (Low, Medium, High) (user programmable)	
2	Spurious Emission	≤ 40 db below PEP	
3	Side Band Suppression	≥ 70 db or better	
4	Carrier Suppression	≥ 40 db or better	
5	Intermodulation distortion	30 db min. below PEP	
6	Audio Response	Within 6 db from 350 Hz to 2700 Hz.	
7	Side Tone Level	Better than 0.1 mW into 150 Ohm load for 5 mV of audio input at 1 KHz	
RECEIVER :			
1	Receiver Sensitivity	-111 dbm for 10 db SINAD or better	
2	Image Rejection :	≥ 70 db or better	
3	IF Rejection	≥ 70 db or better	
4	In band Inter modulation Distortion	35 db min. below PEP	
5	Audio Response	Within ±6 db from 350 Hz to 2700 Hz	

6	Audio Output :	1 W across loudspeaker or more	
7	A/F Harmonic Dist :	≤ 25 db or better	
ENVIRONMENTAL			
1	Operating Temperature	-30°C to +55°C	
2	Storage Temperature	-30°C to +60°C	
3	Humidity	95% non-condensing (-20°C to +60°C)	
FEATURES			
1	Selective calling	Digital FSK coding (4/6 digit select call)	
2	Scanning	5 Channels per second or better	
3	ALE (2G/3G)	Complying MIL-STD-188-141B	
4	Flash messages	Predefined messages	
5	GPS Interface :	Inbuilt	
6	RS-232 Control	The Radio set should have capability to operate at 9600 baud Rate or better to support data functionality with necessary software support for email functionality.	
7	Radio kill/un-kill	Should have kill/un-kill function	
8	Audio input sockets	Mic and internal socket	
9	Squelch	High quality syllabic squelch	
10	Push to talk	Suitable Microphone to be provided.	
11	Audio socket	Suitable head gear should be provided	
12	Vocoder (Optional)	MELP/ACLP (1200/2400 bps)	
13	DSP Processor Functionality	Suitable inbuilt DSP processor functionality to minimize interference and noise in received signal.	
Essential Radio Accessories:			
1	Collapsible Whip Antenna 1.5 m , 3 m		
3	OEM Power supply unit		
4	Backpacks (Carrying Harness)		
5	Service manual complete (Soft Copy)		
6	GPS Antenna		
7	System Programmer CD		

Specification of Mobile (Vehicle) Antenna with Automatic Tuner			
Description			**Compliance**
1	Frequency Range		
	Primary Whip Top	Transmit Operation: 2 – 30 MHz	
	Secondary Whip Top	Transmit Operation: 2.5 – 30 MHz	
2	Power Rating	125 Watts PEP (Voice)	
3	Power consumption		
	Static	150 mA	
	Tuning	1 Amp	
4	Input Impendence	50 Ohm: VSWR typically 1.5:1	
5	Temperature	-40º to +60ºC	
6	Tuning speed	Typically 2 Seconds	

6.4.5 Backhaul Connectivity & related infrastructure

Bidder is required to propose the backhaul broadband connectivity either from Satellite (BGAN) or from VSAT with the entire required infrastructure. Bidder has to consider the cost of onetime capital cost related to infrastructure (i.e. Antenna, cables, etc.) & Operational expenditure related to bandwidth for monthly and yearly charges.

6.4.6 BGAN Satellite Terminal

BGAN Satellite Terminal			
Sl. No.	**Classification**	**Description**	**Compliance**
1	General	The equipment Should have rugged design, and provide access to the highest bandwidth available on the BGAN network. Ideal for bandwidth-hungry applications, such as live video, or for teams using standard office applications	
2	Size	Height: 34.5cm Width: 27.5cm Weight: 2.8kg	
3	Standard IP	Up to 492kbps (send & receive)	
4	Streaming IP	32, 64, 128, 256kbps or BGAN X-Stream™ (send & receive)	
5	ISDN	1 x 64kbps	
6	Voice	Via RJ-45 ISDN handset, RJ-11	
7	Data Interfaces	USB Ethernet WLAN 802.11b	
8	Ingress Protection	IP 55	
9	Battery	Rechargeable Lithium-Ion Battery	

6.4.7 Vehicle Mounted Satellite on the HALT (SOTH) Antenna

SL. No.	Specifications		Compliance (Yes/No)
General			
1	Size of Antenna	1.2 METER MOTORIZED VEHICULAR ANTENNA	
2	Reflector material	Carbon Fiber or better	
3	Mount Geometry	Elevation over Azimuth	
4	Polarization Adjustment	Rotation of Feed	
Electrical RF			
1	Operating Frequency	Rx:-10.95 -12.75 GHz Tx : 13.75-14.5GHz	
2	Mid band Gain (+-2dB)	Rx: 41.50dBi or better Tx: 43.1 dBi or better	
3	G/T, midband, @30° elevation	20dB/K min. or better	
4	Feed Configuration	Offset	
5	Polarization	Linear Standard	
6	Feed Ports	Two Port Transmit/Receive	
7	Antenna Radiation	As per ITU-R S.528.5	

	Pattern		
8	Cross-Pol Isolation – On-axis	Tx/Rx: 35 dB or better	
9	VSWR	Tx/Rx :1.30:1 or better	
10	Feed Port Isolation – TX to RX	75 dB or better	
11	Feed Interface Rx / Tx	Tx/ Rx: WR-75 G	
12	Power Handling Capability	0.5KW	
Controller			
	Three-axis Jog Control & Display with Auto-stow		
1	Antenna should be fully motorized for auto-pointing and auto tracking		
2	The terminal should have GPS receiver, Beacon Tracking Receiver and electronic compass. The Antenna control unit should retrieve/acquire the satellite terminal's latitude, longitude, position etc. from inbuilt electronic compass, inclinometer, and GPS receiver for calibrating the antenna terminal.		
3	Once the chosen satellite is selected, the antenna unit should automatically deploy and peak onto the chosen satellite including polarization of both transmit and receive beams. Thereafter it shall track the selected satellite for the peak signal strength. Also the system should ensure pointing towards correct satellite throughout the duration of the communication.		
4	Enough memory should be available in portable terminal itself for storing data of at least up to 20 satellites		
5	System should be equipped with auto pointing feature of antenna. The Antenna Control should be equipped with Auto acquisition tool for facilitating auto pointing of the antenna. The VSAT system should acquire satellite with no / minimum coarse setting. It should be possible to acquire the satellite with one command operation once the terminal is placed facing south		
6	In case of failure or malfunction of the automatic satellite acquisition system, provision shall be available for manual acquisition of the satellite.		
7	The terminal should be able to auto align to the satellite orbital arc		
8	Auto acquiring feature shall be possible even on the terrain with the slope.		
9	**Input Power**: 110/240 VAC, 1 ph, 50/60 Hz		
10	**Tracking capability:** Antenna should automatically track and lock on the pre-assigned satellite from any position with built in GPS and any other required hardware and software.		
Mechanical			
1	Az/El Drive System	Roto-Lok Cable Drive System	
2	Polarization Drive System	Rotation of Feed	
3	Antenna Movement	**Azimuth** : +/- 180 deg or better **Elevation**: 0 to 90 deg or better **Polarization**: ±95°deg or better	
4	Limits	**Azimuth** :CC & CCW **Elevation**: UP & Down **Polarization**: FCW & FCCW	
5	Speed	Slewing/Deploying 2°/second Peaking 0.2°/second or better	
6	HPA Mounting	Feed Boom, Rear of Reflector, or Inside Vehicle	
7	Manual Drive	Handcrank on Az and El Axii, Leads from 12VDC Pol Motor	
8	Proper fixing arrangement for the LNB is to be provided on the antenna feed		

	assy.		
9	The supplies should include Transmit Rejection filter, all the standard accessories for the fitment of antenna and integration material on the top of vehicle		
10	Indoor Equipment (Antenna Control Unit, Tracking Unit (L Band) etc.) and outdoor equipments like Digital Compass, GPS are to be supplied with the interconnecting cables. All the cables connecting indoor and outdoor equipments are to be supplied in two split with mating MIL grade connectors.		
11	Remote Monitoring & Control software as well as command set to be provided. All calibration Software related to antenna or antenna accessories are to be supplied.		
12	All interconnecting cables, connectors and Accessories should be MIL qualified and qualified for the outdoor operation.		
Environmental			
1	Wind Loading	**Operation**: 45mph(72Km/h) or better **Survival** : **Deployed** 75 mph (121 kmph) or better **Stowed** 100 mph (161 kmph) or better	
2	Temperature	**Operational** +5° to 125°F (-15° to 52°C) or better **Survival** -40° to 140°F (-40° to 60°C) or better	

6.4.8 WI-FI Hotspot Antenna

	WI-FI Hot Spot		
Sl. No	**Classification**	**Description**	**Compliance**
1	Frequency	2.4GHz ;802.11n	
2	Output Power	25dBm	
3	Network Interface	1 X 10/100 BASE-TX (Cat. 5, RJ-45) Ethernet	
4	Enclosure Characteristics	Outdoor UV Stabilized Plastic	
5	Power Supply	Up to 24V, 1A & POE	
6	Operating Temperature	-40C to +80C	
7	Operating Humidity	5 to 95% Condensing	
8	Power Consumption	7 Watts	
9	Antenna	3x120 Degree / Omni	
10	Mount	Mast Mounted	
11	Gain	15dBi	
12	Coverage	360 Degree	

6.4.9 Real Time Streaming Encoder

Real Time Streaming Encoder			
S.No	**Classification**	**Description**	**Compliance**
1	Operating Temp/Humidity	*20°Cto+55°C	
2	Input Voltage Range	24VDC	
3	Power Consumption	18Wmax(at24Vfullload),13W idle Operation,2W standby	
4	Enclosure	Aluminum, heat dissipating design	
5	Fittings	Optional wall mount, VESA mount, rack mount and DIN rail mount	
6	Video Input Format	1channel IP video input H.264/MPEG4/MJPEG up to 720x576(D1)resolution up to 30fps	

7	Camera Interoperability	Axis, Panasonic, Bosch, Sony (others on request) + ONVIF	
8	Audio	Dependent on IP camera models	
9	Recording	Up to a maximum of 720x576(D1) at 25/30 fps in H.264/MPEG4/MJPEG format on internal 2.5" HDD/SSD Driver	
10	Viewers Supported	TVI Control Center (Windows PC) and TVI Mobile Viewers (Android and iOS)	
11	Video Frame Sizes Supported	Up to 720x576(D1)	
12	High Resolution Image Retrieval	Enhanced definition (up to 720x576) over user - definable areas via high quality JPEG	
13	Camera Input	1 x IP camera via RJ45 (requires Power-over-Ethernet injector or direct camera power)	
14	Audio Input	Via IP cameras	
15	LAN Network	1 x GbE RJ45	
16	Cellular Antenna	2 x SMA antennas (3G/4G and MiMo)	
18	Wi-Fi Antenna	1 x SMA antenna	
19	Cellular SIM	1 x standard SIM carrier, network agnostic	
20	Power (DC Input)	1 x 2-pin 24VDC terminal block	
21	Power (Remote On/Off)	1 x 2-pin terminal block switch	
22	USB Ports	4 x USB 2.0 Type A	
23	Monitor Output	1 x DVI-D ,1 x VGA (for accessing local configuration menu	
24	Cellular Connectivity	Built-in CDMA/EV-DO/GPRS/EDGE/UMTS/HSPA+/LTE module	
25	Wi-Fi Connectivity	Built-in 802.11b/g/n module	
26	PTZ Connectivity	Via IP cameras	
27	Bandwidths Supported	9Kbps to 1Mbps	
28	Encryption	Up to AES 256 encryption (streaming), Built-in AES 128 encryption(recording)	
29	Archiving	Fragile Digital Water marking of recordings	
30	SIM Card	4G Connection SIM card for the encoder	
31	Command Center Server	OS: Windows XP /Vista/7/2008 R2/Windows 8/Windows 2012 2. Dual Core 1.6GHZ+ Processor 3. 8 GB RAM 4. 500 GB HDD 5. Monitor - 19" Inch 6. Keyboard & Mouse 7. Java 7 8. Dual Network Card	
32	Public IP Address	Public IP Address for Command Center Server	
33	Broadband Connection	Minimum of 2Mbps broadband connection.	

6.4.10 Wireless Access Point for MCOV

Sr. No	Minimum required specifications	Compliance (Yes/No)
1	Access Points proposed must include radios for both 2.4 GHz and 5 GHz.	

2	Must support 2X2 multiple-input multiple-output (MIMO) with two spatial streams	
3	Must support data rates up to 100 Mbps.	
4	Must support 40 MHz wide channels on both radios.	
5	Must support 802.11 dynamic frequency selection (DFS)	
6	Access Point should support Wireless Backhaul , point-to-point, point-to-multipoint bridging	
7	Must support Encrypted and authenticated connectivity between all backhaul components	
8	Mesh Nodes shall provide a 'wired' interface for connection to local area networks or backhaul of local clients.	
9	Access Point must incorporate radio resource management for power, channel, coverage hole detection and performance optimization	
10	Access point shall support powering from AC Adapter, DC and POE(802.3at+).	
11	Access point shall support pole, wall, and roof mounting options.	
12	The Access point shall be rated for operation over an ambient temperature range up to 60°C.	
13	Should be Wi-Fi alliance certified for interoperability with all IEEE 802.11a/b/g/n client devices.	
14	Should support SNMP, CLI, and web-based management interfaces	
15	Should support self-healing, self-optimizing local mesh extending network availability to areas without an Ethernet infrastructure	
16	Must support both centrally controlled mode (configured and updated via wireless controller) and autonomous mode (without controller) which is software selectable	
17	Should be able to support Band select to shift 5 Ghz clients on less congested 5 GHz band radio.	

6.4.11 Wireless Access Point for MCOV (External)

These external WiFi Access points shall be configured to increase the wireless network access over and above that is provided by WIFI hotspot antenna.

Sl.No	FEATURES	DESCRIPTIONS	SPECIFICATIONS	COMPLIANCE
1	System Information	Processor Specs	Atheros MIPS 24KC, 400 MHz	
		Memory Information	32 MB SDRAM, 8 MB Flash	
		Networking Interface	(1) 10/100 Ethernet Port	
2	Regulatory / Compliance Information	Wireless Approvals	FCC Part 15.247, IC RS210, CE	
		RoHS Compliance	Yes	
3	Physical/Electrical Environmental	Antenna Connector	N-Type Connector (male)	
		Power Supply	24V, 0.5A PoE Adapter (included)	
		Power Method	Passive Power over Ethernet (pairs 4, 5+; 7, 8 return)	
		Operating Temperature	-40 to 80° C	
		Operating Humidity	5 to 95% Condensing	
		Shock and Vibration	ETSI300-019-1.4	
4	Software Information	Modes	Station, Access Point, AP Repeater	
		Services	SNMP, DHCP, NAT	

		Utilities	Site Survey with Preferred SSID, Antenna Alignment Tool, Discovery Utility	
		Security	WEP/WPA/WPA2	
		QoS	802.11e / WMM Support	
		Statistical Reporting	Ethernet Activity, Uptime, Packet Success/Errors	
5	Antenna		Omni directional/Directional	
6	General	Tripod	6M/4M tripod/fiber mast along with to be provided for extending this Wi-FI access to 3-4KM using repeaters	
		Battery	Battery for powering the Access Point for 6-8 Hrs. Battery should be IP67 grade.	

6.4.12 IP Phone for Unified Communications

IP Phone		
Sr. No.	**Minimum required specifications**	**Compliance (Yes/No)**
1	The IP phone should meet the following requirements –	
2	IP Phone and Call Control (PBX) should be from the same OEM. 3rd Party Phones are not acceptable	
3	Have high-resolution 800 x 400 pixel or better WVGA Color display with 5" or higher Screen size (Diagonal).	
4	Proposed Phones should be Hearing Aid Compatible (HAC)	
5	Have Intuitive user interface and keypad for quick access to all IP phone features and services.	
6	Have an integrated 2-port Gigabit Ethernet switch.	
7	Should have 5 or more Programmable line keys.	
8	Should have 4 or more programmable soft keys in addition to fixed feature keys	
9	Four way Navigation and Selection keys	
10	Foot stand supporting different viewing angles	
11	SIP support for signaling.	
12	Audio Codec Support: G.711, G.722, G.729 & iLBC.	
13	It support text based XML based applications for productivity enhancement.	
14	Should support 802.1 Q/p for QoS.	
15	Full-duplex speakerphone with high-definition/wideband voice support for handset, headset and speaker.	
16	It should support PoE (Power on Ethernet) Class 2 or better	
17	The vendor should be listed in Leaders Quadrant of latest Gartner Magic Quadrant report for corporate telephony	

E. MCOV Operation & Video Conferencing System

6.5.1 HD Video Conferencing Unit

2-Party Video Conferencing system based on 3G/4G					
S. No	**Classification**			**Description**	**Compliance**
1	Protocol			SIP, H.323	
2	Image Compression			H.261 (mainstream) H.263, H263+, H.263++ (reception) H.264 High Profile, H.264 Baseline Profile	
3	Audio Compression			G.711µ-law, A-law (3.4 kHz @ 64 kbps)	
				G.722 (7.0 kHz @ 64 kbps)	
				G.722.1 (7.0 kHz @ 32 kbps)*1	
				G.722.1 Annex C(14.0 kHz @ 48 kbps/24 kbps)*1	
				MPEG-4 AAC-LD Mono (14.0 kHz @ 32 kbps, 22.0 kHz @ 96 kbps/64 kbps)	
				MPEG-4 AAC-LD Stereo (22.0 kHz @ 96 kbps/64 kbps) x 2	
4	Remote Camera Control			H.281 (Zoom/Pan/Tilt/Preset)	
5	Dual Stream		Method	H.239 (H.323), BFCP (SIP)	
			Multi-Monitor	3	
			No. of Applicable Resolution Frames	Main: Max. 1080p 30 frames/second, Sub: 1080p 30 frames/second	
6	Encryption			SRTP (AES 128 bit), H.235 (AES 128 bit)	
7	Communication Bandwidth			256 kbps to 18 Mbps	
8	Video		Resolutions	176 x 144p, 352 x 240p, 352 x 288p, 512 x 288p, 640 x 480p, 704 x 480p, 768 x 432p, 800 x 600p	
				1024 x 768p, 1280 x 720p, 1280 x 768p, 1280 x 800p, 1920 x 1080i,	
			Frames	Max. 60 frames/second (for H.264 1080p)	
			Display	Full-screen, PinP, PwithP, Side by Side	
9	Audio			Echo canceller, Auto gain control, Auto noise reduction, Lip synch, Mic mute	
10	I/O Terminal	Video Input	Camera	HDMI main x 1, HDMI sub x 1	
				Input compatible resolution: 1280 x 720p, 1920 x 1080i, 1920 x 1080p	
			Computer	RGB x 1(Mini D-sub 15pin), HDMI x 1*3	
				Input compatible resolution: VGA, SVGA, XGA, HD, WXGA, SXGA, UXGA, WSXGA+, Full-HD	
		Video Output		HDMI x 2, HDMI x 1 (for Self Base/Record) RCA x 1 (Component)	
				Output compatible resolution: 1920 x 1080i, 1920 x 1080p	
		Audio Input		Digital Boundary Microphone x 1 (KX-VCA001), Max. 4; Analogue Boundary Microphone x 1 (KX-VCA002), Max. 1	
				Stereo mini-plug (x 1(ø3.5 mm) RCA (Stereo) x 1	
		Audio Output		HDMI*4, Stereo x 1 (ø3.5 mm), RCA x 1 (Stereo)	

		Network	RJ45 x 2 (100BASE-TX Full Duplex)	
		External Control	RS-232C x 1 (Also used for maintenance)	
		Others	USB x 1, Camera Control Terminal x 1 (Unused)	
11	No. of Simultaneous Connection Sites		6	
12	Content Sharing		PC(RGB/HDMI), Sub-camera (HDMI sub)	
13	USB Memory		Version upgrade	
			Import: Setting data, Address book, Profiles, Starting screen	
			Export: Setting data, Address book, Profiles	
14	Network Protocol		TCP/IP, UDP/IP, DHCP, DNS, HTTP, HTTPS, TELNET, NTP	
15	Network Functions		Automatic Repeat Query (ARQ), Forward Error Correction (FEC), Adaptive Rate Control (ARC), Reorder, Packet Shaping,	
			Arbitrary Port Setting, NAT Compatibility, Encryption, IP Precedence/DiffServ Support	
16	External Control		Via Web Browser, Control by HTTP CGI, TELNET, RS-232C	
17	Connection Modes		IP mode, NAT Traversal Service	
18	Dimensions (width x depth x height)		Approx. 320 mm x approx. 230 mm x approx. 60 mm	
19	Weight		Approx. 2.0 kg	
20	Power Input		AC 100-240 V,-1.4A, 50/60 Hz	
21	Power Consumption		Maximum: approx. 45 W, Standby: 0.6 W	
22	DC Power Input		DC 24 V, 2.5 A	
23	Operating Temperature		0 °C to 40 °C	
24	Operating Humidity		10 % to 90 % (non-condensing)	

6.5.2 65” LED Full HD TV

Sl.No	FEATURES	DESCRIPTIONS	SPECIFICATIONS	COMPLIANCE
1	Display	Screen Size	65"	
		Panel Technology	60Hz Slim D-LED BLU	
		Resolution	1920x1080 (16:9)	
		Brightness	450 nits	
		Contrast Ratio	4000;1	
		Viewing Angle (Horizontal/Vertical)	178° / 178°	
		Orientation	Landscape / Portrait	
		Response Time (G-to-G)	6.5ms	
2	Connectivity	Input	Analog D-SUB, DVI-D (HDMI Common), DisplayPort 1.2, HDMI1, HDMI2 (thru DVI-D Input, Adapter Not Included), Component (CVBS Common) Stereo Mini Jack, USB 2.0 x 1	
		Output	DisplayPort 1.2 (Loop-Out), Stereo Mini Jack	
		External Control	RS232C (In/Out) thru Stereo Jack, RJ45	

		External Sensor	IR, Ambient Light	
3	Sound	Speaker Type	Built in Speaker (10W + 10W)	
4	Power	Power Supply	AC 100 - 240 V~ (+/- 10 %), 50/60 Hz	
		Power Consumption (Typical/Max)	110W / 264W	
		Power Consumption (Standby)	< 0.5W	
5	Environmental Conditions	Operating Temperature	0°C - 40°C	
		Operating Humidity	10%~80%	
6	Features	Special	Slim and Light LFD with Built-in MagicInfo Player S3	
		Tuner	L1 (I/D) : 32KB / 32KB L2 (Unified) : 1MB	
		SMART Signage Platform Compliant	Yes	
		Internal Media Player	Cortex-A9 1GHz Quad Core, 1.5GB DDR3, 8GB Storage, USB 2.0	
		24/7 Operation	Yes	
7	Green Management	Emission Standard	EMC	
		RoHS Compliant	Yes	

6.5.3 Outdoor High Brightness Display (55")

Sl. No	Features	Description	Specification	Compliance
1	**Display**	SCREEN SIZE	55"	
2		RESOLUTION	1920x1080	
3		BRIGHTNESS	2500 cd/m2	
4		PANEL TECHNOLOGY	S-VA	
5		ASPECT RATIO	0.672916667	
6		CONTRAST RATIO (TYPICAL)	5,000:1	
7		VIEWING ANGLE (H/V)	178º/178º	
8		RESPONSE TIME	6ms	
9	**INPUT**	RGB	VGA (D-sub 15 pin), DVI-D, Display Port 1.2	
10		VIDEO	Video: HDMI1, HDMI2, HDBaseT(LAN Common)	
11		AUDIO	Stereo Mini Jack	
12	**Output**	RGB	Display Port 1.2 (Loop-out)	
13		AUDIO	Stereo Mini Jack	
14		EXTERNAL CONTROL	HDBaseT, RJ45	
15		EXTERNAL SENSOR	N/A	
16	**Power**	POWER SUPPLY	AC 100 - 240 V~ (+/- 10 %), 50/60 Hz	
17		POWER CONSUMPTION (TYPICAL/MAX)	491W / 800W	
18		POWER CONSUMPTION	<0.5W	

		(STANBY)		
19	**Environmental Conditions**	OPERATING TEMPERATURE	-22ºF~122ºF	
20		OPERATING HUMIDITY	10~80%	
21	**Features**	SPECIAL	IP56 Certified for Simple Enclosure Outdoor, Protection Glass(Anti Graffiti, Infrared Reduce), Polarized Sun Glasses Viewable in any direction, HD Base T for Long Distance, Button Lock, Lamp Error Detection, Auto Brightness Control with Ambient Brightness Sensor, Anti Image Retention, Temperature Sensor, MagicInfo S, Smart Scheduling, RJ45 MDC, PIP/PBP, Auto Source Switching & Recovery	
22		TUNER	N/A	
23		SMART SIGNAGE PLATFORM	Yes	
24		MEDIA PLAYER TYPE	Cortex-A9 1GHz Quad Core CPU, 1.5GB, DDR3, 8GB, USB 2.0.	
25		24/7 OPERATION	Yes	
26	**Green Management**	ROHS COMPLIANT	Yes	
27		EMISSION STANDARD	Class A	

6.5.4 Operator Workstation PC

Operator Workstation PC			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Processors	Intel® Xeon® Processor E3-1240 v5	
2	OS	Windows 8.1®Professional 64 Bit	
3	Chipset	chipset Intel C236 or better	
4	Memory	32GB DDR4 Non-ECC Memory or better	
5	Graphics	NIVDIA Quadro K620 2GB or better	
6	Hard Drives	4TB SATA HDD 5900RPM	
		Gigabit Ethernet controller with Remote Wake UP and PXE support	
		Waves Maxx Audio	
		16x DVD+/-RW, Standard keyboard and optical Mouse	
7	Standard i/o Ports	4 - USB 2.0	
		1 – VGA	
		1 - RJ45	
		1 - Audio line-in / microphone	
		1 - Audio line-out	

6.5.5 Rugged Laptop

S.No	Features	Specification	Compliance
1	Processor	Intel Core i5-4310M vPro Processor – 2.7GHz – 3MB cache	
2	Memory	8 GB DDR3L RAM Standard	
3	Storage	500GB HDD Shock-mounted flex-connect hard drive with quick-release	
4	Display	15.6” TFT LCD FHD (1920 x 1080) Sunlight readable	
5	Audio	Intel High Definition Audio Compliant	
6	Speakers	Integrated Front Facing Speaker	
7	Volume Controls	Convenient Keyboard Volume Controls	
8	Expansion Slots	Smart Card ExpressCard/54 x 1 Secure Digital (SD) Memory card	
9	Keyboard & input	Backlit Keyboard Pressure-sensitive touchpad with vertical scrolling support	
10	Wireless LAN	802.11a/b/g/n/ac	
11	Bluetooth	V4.0 + EDR	
12	Wireless WAN	Integrated 3G LTE multi carrier mobile broadband	
13	Security	Kensington Cable lock slot Intel vPro Technology Trusted platform module (TPM) security chip v.1.2 Smart card reader	
14	Battery	9cell Li-Ion battery pack	
15	Battery Life	Approx 10 Hrs with Standard Supplied Battery	
16	Operating System	Windows 7 Professional or more	
17	Weight	5.2Kgs including Handle.	
18	Environmental Certificates	MIL-810 G Certified MIL-461F Certified for EMI/EMC IP(Ingress Protection) 65	

6.5.6 Rugged Tablet

S.No	Classification	Specification	Compliance
1	Processor	Intel Core i5-4302Y vPro Processor – 1.6GHz with Intel Turbo Boost up to 2.3GHz – 3MB cache	
2	Memory	4GB SDRAM (DDR3-1333MHz)	
3	Storage	128GB solid state drives	
4	Display	7" WXGA 1280 x 800 with LED backlighting 10-point capacitive multi touch daylight-readable screen – 500 nit – IPS display with direct bonding – Anti-reflective screen treatment – Ambient light sensor, digital compass, gyro and acceleration sensors	

5	Audio	– Automatic screen rotation – Intel HD graphics 4200 video controller, max. 1664MB shared VRAM with Win 8 Pro 64-bit Concealed mode (configurable) Integrated microphone Realtek high-definition audio Integrated speaker On-screen and button volume and mute controls	
6	Keyboard & input	10-point multi touch – Supports gloved touch and gestures and capacitive stylus pen 6 tablet buttons (2 user-definable) Stylus pen with integrated holder in rotating hand strap On-screen QWERTY keyboard	
7	Cameras	720p webcam with mic 3MP rear camera with auto focus and LED light	
8	Interface	Docking connector : Dedicated 24-pin Headphones/speaker : Mini-jack stereo USB 3.0 (x 1) : 4-pin	

6.5.7 Rugged Mobile

Sl.No	DESCRIPTIONS	SPECIFICATIONS	COMPLIANCE
1	KEY FEATURES	Meets IP67 and MIL-810G standards	
		4G LTE, 3G GSM,CDMA	
		Accurate Navigation with External GPS Antenna	
		Outdoor sunlight readable	
2	APPLICATION HIGHLIGHTS	Should work on extreme environmental conditions & rough handling	
3	ENVIRONMENT	IP67	
		MIL-810G for shock, vibration, drop, dust & humidity	
		5-ft drop resistant on concrete	
		Operating temp. -20° to +60°C	
4	OPERATING SYSTEM	Android 5.1	
5	CPU	Qualcomm MSM8916, Adreno 306 GPU	
		Quad-Core CPU up to 1.4 Ghz (64-bit)	
6	MEMORY/STORAGE	2GB	
		16GB eMMC	
7	DISPLAY & TOUCH	5.3” IPS with 1280x720 pixels (HD)	
		Sunlight-readable, Anti-Glare, 400 NITS	
		Multi-touch, supports wet and glove touch	
8	CONNECTIVITY & NETWORK	WiFi 802.11 b/g/n	
		Bluetooth 4.0 LE	
		Integrated 4G LTE Global Mode, CDMA, 3G GSM	
		Integrated RFID	

		Optional PTT (Push to Talk)	
9	NAVIGATION	High-precision GPS	
		n External GPS Antenna connector	
10	INTERFACES	1 x USB 2.0 (micro)	
		1 x 3.5mm Audio jack	
		1 x A/V input	
		1 x Micro SD (Max 32GB)	
		1 x SIM slot	
		1 x Waterproof POGO pin connector	
11	CAMERAS	13Mp Autofocus with dual-LED flash (rear)	
		2Mp (front)	
12	INTEGRATED SENSORS	3D Acceleration Sensor	
		Distance Sensor	
		Ambient Light Sensor	
		Magnetic Sensor	
		Barometric Altimeter	
13	BATTERY & POWER	Capacity: 3100 mAh std, optional 4800 mAh	

F. MCOV Periphery Video Surveillance System

6.6.1 Vibration Proof Fixed Dome Camera

Fixed Mini Dome IP Camera			
S. NO.	**Camera Characteristics**	**Description**	**Compliance (Yes/No)**
1	Requirement Overview	IP Camera should be a high-definition, ruggedized, Vibration resistant and Outdoor ready	
2	Max Resolution	1280 x 960fps	
3	Dynamic Range	120 dB	
4	Lens/Iris	Focal length: 4mm Max. aperture: F2.8	
5	Minimum illumination	● Color mode: 0.5 lux ● Black and white mode: 0.05 lux	
6	Field of View	68° (horizontal)	
7		50° (vertical)	
8		90° (diagonal)	
9	Camera Adjustment	Manual : 90° (0°~90°)	
10	Privacy regions	The camera supports up to four user-defined privacy regions. Any video within a privacy region is masked in the video stream.	
11	Number of streams	The camera can stream H.264 and MJPEG video simultaneously. Each video stream can be configured with individual resolution, quality, and frame-rate settings	
12	Local Storage	MicroSD	
13	ONVIF	ONVIF , 2.0 Profile S	
14	Powering Camera	The camera should supports Power over Ethernet (PoE) 802.3af	

15	Power Consumption	Max 8 Watts	
16	Environmental	Camera should be Ruggedized, IK10 and IP67-rated housing	
17	Operating Temperature	-13 to 122°F (-25 to 50°C)	
18	Protocols	TCP/IP, DHCP, HTTP, HTTPS, NTP, RTP, RTSP, SMTP, SSL/TLS, SRTP, CDP, Bonjour, SNMP, and SSH	
19	Quality of service (QoS)	Differentiated services code point (DSCP) marking and class of service (CoS) marking	
20	Certifications Safety	UL, IEC/EN	
21	Auto Detection & Configuration	The camera should be automatically discovered and configured when connected to VMS or Network Switch, to set the right network parameters for the video stream on the network .	

6.6.2 Vehicle Mast Mounted High Speed PTZ Camera

Vehicle Mast mounted High Speed Positioning HDTV IP PTZ Camera			
Sl. No.	**Classification**	**Description**	**Compliance**
1	General	1/1.9'' Progressive Scan CMOS	
		Optical zoom: 23X; Digital zoom: 16X	
		Resolution: 1920x1080. 2MP	
		ONVIF(Open Network Video Interface Forum), CGI(Common Gateway Interface), PSIA(Physical Security Interoperability Alliance), to ensure greater interoperability between different platforms and compatibility	
		3D intelligent positioning function	
		3D DNR, DWDR	
		7 alarm inputs and 2 alarm outputs	
		IP67	
		Up to 150m IR Light Source (Internal/External)	
2	Focal Length	5.9-135.7mm, 23X	
3	Angle of View	59.8°-3.0°(Wide-Tele)	
4	Min. Working Distance	10-1500mm(Wide-Tele)	
5	Camera Function	Auto iris, auto focus, auto white balance, backlight compensation and auto day & night switch Min. Illumination: Color：0.002Lux @ (F1.5, AGC ON), B/W：0.0002Lux @(F1.5, AGC ON) Shall Support 24 privacy masks	
6	Smart Functions	Image processing: shall support defog, HLC/BLC Smart codec: low bit rate, ROI Smart detection: shall support Face detection, Intrusion detection, Line crossing detection, Audio exception detection, Region entrance detection, Region exiting detection	

7	Network Functions	H.265/H.264/MJPEG video compression H.264 encoding with Baseline/Main/High profile ROI (Region of Interest) encoding (support 12 areas with adjustable levels) Built-in Web server Onboard storage, up to 128GB Support up to 8 NAS storage; Edge recording (transmit the videos from SD card to the NAS after network resumed) HTTPS encryption and IEEE 802.1X port-based network access control Support trip-streams Multiple network protocols supported: IPv4/Ipv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE 1 audio input and 1 audio output	
8	Video Resolution	PAL: CIF(704×576)/2CIF(704×288)/CIF(352×288)/QCIF(176×144)	
		NTSC: 30fps; PAL: 25fps	
9	Connections	Network Connection: 10/100M self-adaptive Ethernet port	
		Network Protocols: ATP, Telnet, ODP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP,ONVIF	
10	Pan & Tilt Functions	PT Movement Range: Pan: 360° endless, Tilt: +90°～-90°	
		PT Movement Speed: Pan: 0.1°-80°/s, Tilt: 0.1°-40°/s	
		PT Number of Preset: 300	
		PT Patrol: 8 patrols, up to 32 presets per patrol	
		PT Pattern: 4 patterns, with the recording time not less than 10 minutes per pattern	
11	Physical	Product Weight: maximum 21Kg	
		Product Dimension:306×167×212	
12	Working Temperature	-40°C ~ 65°C, humidity 90% or less	
13	Power	DC12V, Max. 40W	
14	IR	Up to 150m IR Light Source	
		Automatically adjusted, depending on the zoom ratio	

6.6.3 Non Line Of Sight (LOS) Battery Powered, Body worn Wireless Camera

Non Line of Sight (NLOS), battery powered, body-worn Wireless Cameras along with required accessories		
Sl. No.	**Description**	**Compliance**
1	Full HD Body worn/helmet mounted wireless NLOS battery operated camera with Transmitter and Antenna	
2	Shall Support Video Transmission	
	Transmitters/Receivers shall be working in Point-To-Point architecture.	
3	Transmitter: Output Power shall be 1W (Appropriate boosters, if required shall be provided)	
4	Transmitter Connector Interfaces: SMA Jack (RF Out), Micro HDMI Input, Neutrik Nanocon (Power Input)	
5	Up to 4 hours of battery operation	
6	The Wireless Cameras shall be able to operate and transmit video feed in Non Line Of Sight conditions up to a distance of 500m from the Mobile Command & Control Vehicle in a point-to-point topology. It should be capable of transmitting from basement or within a building to the stationed MCCV.	

7	The wireless frequency shall be decided by Police and the system shall be able to work at that proposed frequency.	
8	Transmitter shall support RF frequency for 2.4GHz, 1300 to 1400 MHz and 410-490 MHz range.	

6.6.4 Non Line Of Sight (LOS) Wireless Receiver with Display

Non Line of Sight Wireless Receiver with display		
Sl. No.	**Description**	**Compliance**
1	The Display cum receiver system shall be installed in the Mobile Command & Control Vehicle and shall display and record the video feed coming from up to 4 NLOS wireless cameras. The video shall be visible thru the same Video Management Software which is used for other cameras.	
2	The wireless frequency shall be decided by Police and the system shall be able to work at that proposed frequency.	
3	Receiver shall support RF frequency for 2.4GHz, 1300 to 1400 MHz and 410-490 MHz range.	
4	Appropriate Directional & Omni Directional antenna for 360 degree coverage shall be provided	
5	The receiver shall have a USB interface to connect to the Operator Workstation	
6	The appropriate control & live view software for connection diagnostics and viewing the live video feed shall be provided	

6.6.5 Server based Network Video Recorder with Video Management Software

Server based Network Video Recorder with Video Management Software			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Housing	1-RU × 19 in., 4 × SAS 3.5” front-loading drive bays	
2	Motherboard	Intel E5-2620v3 2.4 GHz Xeon Six-Core CPU, 16GB DDR4 RAM	
3	LEDs	Power, hard-drive activity, network activity, system overheat/fan fail	
4	Power supply	1 × 770W internal power supply (optional redundant power supply)	
5	Operating temperature	41° to 104°F (5° to 40°C)	
6	Non-operating temperature	–40° to 158°F (–40° to 70°C)	
7	Operating relative humidity	10% to 90% (non-condensing)	
8	Non-operating relative humidity	10% to 93% (non-condensing)	
9	Maximum on-board storage capacity	4 x 4 TB HDD—approximately 12 TB (RAID-5), for video surveillance application	
10	RAID	Embedded RAID 1/5	
11	Certifications	CE, FCC, IEEE, NTSC, PAL, ISO, ULC, EIA, FM	
12	Network I/O connections.	• One 1-Gb Ethernet dedicated management port • Two 1-Gb BASE-T Ethernet LAN ports • One RS-232 serial port (RJ-45 connector) • One 15-pin VGA1 connector	

		• Two USB2 3.0 connectors • One front-panel KVM connector.	

Video Management Software (VMS)		
Sl. No.	**Classification**	**Compliance**
1	The proposed VMS should be an integrated security solution that includes a command and control style operator console; an open source-based video management software system, standard and high definition IP-based cameras, and system should meet the following requirements.	
2	The Video Surveillance System is required to ensure effective Security & surveillance of an area as well as create a tamper proof record for post event analysis. The Surveillance System shall provide an on-line display of video images on monitors at local security control room & also at any other place as defined for large locations as per requirement.	
3	The surveillance system shall be open standard supporting multiple vendor IP cameras and encoder manufacturers within the same system. The system shall support integration of ONVIF compliant cameras.	
4	The system shall support digital pan-tilt-zoom on live video. PTZ cameras should allow operators to use PTZ controls to zoom to a specific region in the viewing pane. Operators should select part of the full image and perform the PTZ controls within that region.	
5	The surveillance system viewing system should be in thick client for local viewing and thin client through http browser for remote viewing. Both thin and thick client shall provide the capability of viewing single or multiple live and archive cameras, control PTZ camera.	
6	VMS application should mobile application for Android & Apple devices such as the iPad and iPhone. App features should include recorded video playback, thumbnail video preview, and user profiles that allow multiple users to share a single device.	
7	The System shall support the scalability of additional camera installation beyond the originally planned capacity. One single Video Management system shall be expandable to 1000 cameras with center monitoring environment.	
8	The proposed video management system shall support deploying the software on Virtual servers, thus minimizing the hardware foot print for the project.	
9	The system shall have capability to stream video at remote sites by optimizing the bandwidth on WAN.	
10	The system should allow users to access video streams from remote locations that have limited outbound bandwidth. The video should be delivered to multiple users without placing additional load on the remote locations.	
11	The System should support online/offline Maps integration.	
12	Video Surveillance Storage System – The video surveillance storage system should support multiple options to store video. Servers, Direct Attached, shall augment server internal storage. The video surveillance storage system shall store video in loops, one-time archives, or event clips triggered by alarm systems. It shall support for RAID storage.	
13	The system shall provide for integration with other software applications through an open and published Application Programming Interface (API). Such applications shall include, but not be limited to, access control, video analytics, and other alarm and sensor inputs.	
14	The System should support LDAP (Lightweight Directory Access Protocol) server	
15	VMS Server Management Console should support configurable in a high availability (HA) arrangement that should allow a primary server to be paired with additional Failover, Redundant, or Long Term Storage Media Server. These HA servers should support the primary server with hot standby, redundant stream	

	storage and playback, and long term recording storage to help ensure that functionality and recordings are not lost if the primary server goes offline.	
16	The VMS Operations Management Console should have browser-based configuration and administration tool used to manage the devices, video streams, archives, and policies for Video Management System deployment.	
17	System should allow simultaneous viewing of up to 25 cameras per Workspace per workstation.	
18	Camera Recording Management	
19	System should have option to Merge Recorded primary & secondary streams. A camera's recordings from Stream A and Stream B should be played through a single timeline. For example, application should record continuous video throughout the night at a lower quality, but also record higher-quality video whenever an event occurs. The video should displayed in a single timeline.	
20	System should support recording management to view the recordings available on a camera's local storage device (such as an SD card), and copy them to the server.	

6.6.6 24x7 Tethered Drone with gyro stabilized HD Camera Payload and the Ground control Station (GCS)

24x7 Tethered Drone with HD Camera & GCS			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Payload Capacity	1.8 – 2.7 Kg	
2	General	MIL grade VTOL Rotary, Gyro Stabilized Gimbal,	
3	Max Operating Altitude (AGL)	400ft	
4	Max Density Altitude	10000Feet	
5	Wind Continuous/Gust	25/35 Knots	
6	Payload Power	35 watts	
7	Data Rate	10 Mbps	
8	Control	Ground Control Station with microfilament spool with simple take off & landing control	
9	Secure Communication	Direct connection with GCS that cannot be intercepted, jammed or spoofed	
10	Payload Interface	Ethernet	
11	Operational Temp. Range	-15°C to43°C	
12	Power Options	2KW 85 – 265VAC, Gird or Generator, AC,DC	
EO Zoom HD Camera			
1	General	High Quality, Full frame rate, Unbroken secure HD Video	
2	Pan/Tilt/Zoom	Pan: 360° endless, 0.2°/s–350°/s Tilt: 180°, 0.2°/s–350°/s 30x optical zoom and 12x digital zoom, total 360x zoom, 256 preset positions	
3	Image Sensor	Progressive scan CMOS 1/2.8"	
4	Resolutions	1920x1080 (HDTV 1080p) to 320x180	
5	Frame Rate	Up to 25/30 fps (50/60 Hz) in 1080p Up to 50/60 fps (50/60 Hz) in 720p	
6	Day & Night	Automatically removable infrared-cut filter	
7	Casing	IP66-, IK10- and NEMA 4X-rated Metal casing (aluminum), clear dome (PC), repaintable skin cover	

8	Operating conditions	-10 °C to 55 °C (-22 °F to 131 °F) Humidity 10–100% RH (condensing)	
9	Storage conditions	-20 °C to 70 °C (-40 °F to 158 °F)	
10	Weight	Less than 2.5Kg	

G. Other MCOV Items

6.7.1 Mobile DTH Set-Top Box with Auto Tracking Antenna for LIVE TV

Vehicle based DTH Set-Top Box with Mobile Antenna for LIVE TV			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Set-top Box	Full HD Set-top box with Record & Play.	
2	Storage	Minimum 500GB	
		Mobile Antenna	
3	Electrical	Antenna G/T : 9.6 - 10.6 dB/K @ 30º elevation (factory options) Frequency band: High band 11.7 - 12.75 GHz Low band 10.95 - 11.7 GHz (Factory options) Polarization: CP Dual circular RHCP/LHCP LP Dual linear, automatically adjusted (V&H) Power Supply 10-30 VDC Power Consumption 40 Watts	
4	Antenna Performance	Elevation look angle range :Automatically adjusted, 20º - 80º (factory options) Azimuth angle range : Automatically adjusted, 360º continuous Tracking rate: 60º/second Polarization angle range: Automatically adjusted, -180º to +180º Satellite acquisition : <1 minute, fully automated with integrated GPS Satellite re-acquisition : <10 second (when LoS blockage is <2 minutes), integrated gyro	
5	Satellite Service	Frequency Ku-band Supports satellites with EIRP ≥50 dBW Supports regional DTH/FTA services Examples: North America - DISH® Network, Direct-TV Europe - Many FTA channels, SKY, Premier, Digiturk, etc. Asia/Pacific - Dish-TV, Big-TV, Foxtel, etc. Middle East - FTA channels on NileSat, BADR, etc	
6	Electrical Interfaces	RX and control TNC, 50Ω	
7	Environmental	Temperature range -25º to +55º C (-13º to +130ºF) Ground speed Up to 350 Km/h (220 mi/h)	

6.7.2 LED Flood Lights with 120 degree coverage (Mast Mounted)

LED Flood Lights with 120 degree coverage (Mast Mounted)		
Sl. No.	**Description**	**Compliance**

1	Total System Wattage (W) – 120	
2	Application: Outdoor	
3	Working Temperature (°C) -5 to 60	
4	Working Humidity (RH): 10%-90%	
5	Dispersion Angle in degrees: 120	
6	LED Type: High Power LED	
7	Luminous flux: 11500	
8	Colour Temp (K): 5500-6700	
9	CRI : >70	
10	Input Voltage in Volts: (90V to 300 V): 230	
11	Fixture/heat sink material: Aluminium Pressure Die Casting	
12	Input Power in Watts(±10%) 120 Over Charging Cut Off Voltage (V)	
13	Output Voltage in Volts (±10%) 150 Charging Reconnect Voltage (V)	
14	Weight: Max 5Kg	
15	Output Power in Watts (±10%) 105.00 Battery size for 12V Operation (Ah)	
16	Protection against Over voltage, Surge, Short Circuit, Open Circuit, No load	
17	IP Rating: IP65	

6.7.3 PA System with 4 Speakers

PA System with 4 Speakers		
Sl. No.	**Description**	**Compliance**
AMPLIFIER		
1	Power Output: 100W Max., 75W RMS at 10% THD, 70W RMS at 5% THD	
	Output Regulation: ≤ 2 dB, no load to full load at 1kHz	
	Input Channels: 4 × Mic. 0.6mV/4.7kΩ, 1 × Aux 100mV/330kΩ	
	Frequency Response: 50-15,000Hz ±3dB	
	Signal to Noise Ratio: 55dB	
	Tone Controls: Bass: -10dB +7dB at 100Hz, Treble: -10dB +7dB at 10kHz	
	Outputs Line: 1V/3.5kΩ	
	Speaker Outputs: 4Ω, 8Ω, 16Ω & 100V	
	Digital Player: MP3 Player with USB Reader	
	Power Supply: AC: 220-240V 50/60Hz, DC: 12-14V Car Battery	
SPEAKER		
2	Input Power: 40W RMS/60W Max.	
	Power Taps: 40/30/20/10/5W	
	Impedance: 250/330/500/1k/2k	
	SPL at 1kHz: 112.5dB/1W/1m 128.5dB/40W/1m	
	Material ABS	
MICROPHONE		
3	RF Output Power: 10mW (Max.)	
	Modulation Mode: FM	
	Microphone Element: Dynamic, Cardioid	
	Maximum Deviation: Â±25kHz	
	Frequency Response: 40Hz-13kHz	
	Power Requirement: 9V Battery	
	Current Consumption: <30mA	
	Controls: ON/MUTE/OFF Switch	
	Indication: Red LED: Momentary glow for RF ON & Permanent glow for Low	

	Battery	
MICROPHONE Receiver		
4	Frequency Stability: Â± 0.005%	
	Audio Output: 0-50mV	
	S/N Ratio: >80dB	
	Distortion: <0.5%	
	Antenna Type: Telescopic	
	Power Requirement: 220V-240V AC 50Hz for AC adaptor (supplied along with)	
	Controls: Power Switch, Output Volume Control	
	Indication: Red LED for Power ON, Green & Red LEDs for Signal	

6.7.4 All-In-One Heavy Duty Printer, Copier, Scanner & Fax

All-In-One Heavy Duty Printer, Copier, Scanner & Fax			
Sl. No.	**Classification**	**Description**	**Compliance**
1	Print Speed	Black: Up to 35 ppm Draft; 16 ppm Normal; 12 ppm Laser Quality Speed; 5 ppm Best	
		Color: Up to 34 ppm Draft; 15 ppm Normal; 10 ppm Laser Quality Speed; 5 ppm Best	
2	Print Resolution	Color: Up to 4800-optimized dpi color with PhotoREt III enhanced color-layering technology	
		Black: 1200 by 1200 dpi input	
3	Copy Speed	Black: Up to 35 ppm Draft; 16 ppm Normal; 5 ppm Best	
		Color: Up to 34 ppm Draft; 15 ppm Normal; 5 ppm Best	
4	Copy Features	Number of copies: up to 99, lightness/darkness, reduce/enlarge: 25 to 400%, quality, collation, margin shift, tray select	
5	Scan Resolution	Optical: up to 2400 by 4800 dpi, enhanced: up to 19,200 dpi; 48-bit color bit depth, 256 grayscale levels	
6	Fax Speed	33.6 kbps, 3 seconds per page	
7	Fax Features	Up to 125 pages fax memory, auto fax reduction, auto redialing, color faxing, delayed sending, distinctive ring detection, fax forwarding, fax polling, junk barrier, speed dialing up to 99 numbers,	
		PC interface	
8	Display	2-line LCD	
9	Connectivity	1 PictBridge, 1 Hi-Speed USB 2.0 port, built-in wired Ethernet networking	
10	Power	28 Watts in Active Printing & 33 Watts in Active fax/copy	

6.7.5 GSM based Fax Modem

GSM BASED FAX MODEM		
Sl. No.	**Description**	**Compliance**
1	Working Frequency: 900/1800Mhz or 850/1900Mhz or 850/900/1800/1900Mhz(Optional)	
2	G3 Fax Function Support	
3	Caller ID with DTMF/FSK	
4	Phone interface: DTMF line interface(RJ11 Phone Interface)	
5	On-hook Voltage: 45V	
6	Off-hook current 30mA/41mA	

7	Dialing tone frequency: 450Hz	
8	Antenna Plus: >3dB	
9	Emission Power: 2W	
10	Receiving Sensitivity: GSM900: <-117dB	
11	Working Voltage: AC220V/DC12~48V	
12	Operation temperature: -20 60	
13	Operation humidity: 45% 95%	
14	Atmosphere pressure: 86 106	
15	Environment noise: 60dB	

6.7.6 Radio Communication Test Set & Communication Tool Kits

Sr. No.	Description		Qty
.	Radio Communication Test Set		1 Set
1	**Radio test Set for testing Analog & Digital** Communication System Analyzer up to 2.7 GHz supporting to compatible Analog & Digital Technologies		1
	Frequency Range	250 KHz to 2.7 GHz	
	Resolution	1Hz	
	Output Level	+5 dBm to -95 dBm Generator Port	
		-30 dBm to -130 dBm I/O Port	
	Resolution	0.1 dB	
	Spectral Purity		
	Residual Fm	5 Hz, 300 Hz to 3 kHz	
	Residual AM	1.0% max, 300 Hz to 3 kHz	
	Harmonics	- 20 dBc Max	
	Non Harmonics	-35dBc Max	
	FM Modulation		
	Deviation	0 to 75 KHz	
	Deviation Accuracy	5% of setting	
	Bandwidth	5 Hz to 20 KHz	
	AM Modulation		
	Am Depth Range	0 to 90%	
	Resolution	1% setting	
	Bandwidth	100Hz to 10 KHz	
	Broadband Power Meter		

	Frequency Range	1MHz to 2.7 GHz	
	Measurement Range	10mW to 125 Watt	
	Accuracy	10%	
	SINAD Meter		
	Input Level	0.1 Vrms	
	Accuracy	± 1 dB	
	Distortion Meter		
	Range	1% to 20%	
	Input level	0.1 Vrms	
	Audio Voltmeter		
	Input Impedance	1 Meg Ohm / 600 Ohm (Selectable)	
	Frequency Range	50 Hz to 20 kHz	
	Resolution	DC Accuracy: 1% full scale ±1 LSB	
		AC Accuracy: 5% full scale ±1 LSB	
	Specific Features	Communication System Analyzer should have Digital Trans Receiver testing of various Digital protocol	
2	**Soldering & De soldering Station**		1
3	**Tool Kit with special tools**		1
5	**Communication Tool Kit**		1

Bidders are required to offer the products with above mentioned or better specifications & meeting the desired functionality as mentioned in this RFP.

Bidder may quote an equivalent product to meet the desired functionality mentioned in this RFP.

Section - 3

Service Levels & Penalties

The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the successful bidder to Office of the ADGP (Technical Services), Home Department for the duration of the contract. Office of the ADGP (Technical Services), Home Department shall regularly review the performance of the services being provided by the successful bidder and the effectiveness of this SLA.

1. Delay in delivery & Implementation related penalty :

The vehicle along with the subsystems are to be delivered, installed, commissioned & implemented in 6 months from the date of issuance of Purchase / Work order. In case of delay in delivery of licenses and implementation, the penalty of 1% of contract value per delayed week will be levied up to maximum of 10% of contract value. If delay is beyond 10%, Office of the ADGP (Technical Services), Home Department /GIL reserves the right to terminate the contract.

2. Operational Penalty

The Bidder / OEM support for respective subsystems should include 24X7 support.

Bidder / OEM Support should cover Quarterly Reviews/Health Checks for the proposed solution.

Bidder / OEM Support response time should not be more than 2 hours for any reported complain regarding non-functioning of subsystems. In case the delay in the response time is beyond 2 hours, hourly penalty at the rate of **Rs. 25,000/-** per delayed hour will be levied for delayed response for first 12 hours and afterwards penalty at the rate of **Rs. 50,000/-** per hour will be levied. Operational penalty will be deducted from PBG submitted by the successful bidder.

Bidder resolution time for resolution of complains & making the sub-systems up & fully functional should not exceed 24 hours. In case the delay in the response time is beyond 24 hours, hourly penalty at the rate of **Rs. 50,000/-** per delayed hour will be levied for delayed response for first 12 hours and afterwards penalty at the rate of **Rs. 100,000/-** per hour will be levied. Operational penalty will be deducted from PBG submitted by the successful bidder.

The overall penalty will be capped at 10 % of total contract value.

Successful bidder will have to maintain the PBG at 10% of the order value as per the terms and conditions defined in this RFP.

Section - 4

Instructions to Bidders

ARTICLE – 1: COST OF BIDDING

- The Bidder shall bear all costs associated with the preparation and submission of the Bid and Gujarat Informatics Ltd. (GIL) will in no case be responsible for those costs, regardless of the conduct or outcome of the bidding process.
- The Bidder will have to submit a non-refundable Bid Processing Fees of Rs. 15000/- in the separate cover within the main sealed cover containing EMD on or before the date & hours of submission of the bids, at GIL office. Bid processing fees must be in the form of Demand Draft in the name of "Gujarat Informatics Ltd." payable at Gandhinagar along with the covering letter. Please affix the stamp of your company on the overleaf of demand draft.

ARTICLE – 2: BIDDING DOCUMENTS

Bidder can download the bid document and further amendment if any available free on http://gil.gujarat.gov.in and https://gil.nprocure.com and upload the same on https://gil.nprocure.com on or before due date of the Bid. Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or bid not substantially responsive to the bidding documents in all respect may result in the rejection of the Bid.

ARTICLE – 3: CLARIFICATION ON BIDDING DOCUMENTS

The Clarifications must be submitted in writing at GIL at least 10 days before the last date of bid submission date. Clarifications received from the bidders after the due time will not be entertained under any circumstances.

ARTICLE – 4: AMENDMENT OF BIDDING DOCUMENTS

- At any time prior to the deadline for submission of bids, OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL, for any reason, whether at its own initiative or in response to the clarifications requested by prospective bidders may modify the bidding documents by amendment & put on website.
- All prospective bidders are requested to browse our website & any amendments / corrigendum / modification will be notified on our website only and such modification will be binding on them. Bidders are also requested to browse the website of GIL i.e. http://gil.gujarat.gov.in and https://gil.nprocure.com for further amendments if any.
- In order to allow prospective bidders reasonable time to take the amendment in to account in preparing their bids, OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL, at its discretion, may extend the deadline for the submission of bids.

ARTICLE – 5: LANGUAGE OF BID

The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT / GIL shall be in English. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in English. For purposes of interpretation of the bid, the translation shall govern.

ARTICLE – 6: SECTIONS COMPRISING THE BIDS

- Bid Security Section:

Bid Processing Fees & EMD Details: The bid processing fee (non-refundable) & EMD (refundable) to be furnished to GIL office in a separate envelop on or before date & hours of submission of bid.

- Eligibility & Technical Section:

In this section, Bid letter form and Clause-by-Clause Compliance Statement as per forms/format & compliance to Scope of Work need to be uploaded.

Regarding eligibility criteria, all the forms/format & documentary proof need to be uploaded.

Regarding Technical Specification, bill of material with required part code no. on the letterhead of OEM/bidder is required to be uploaded, Bidders have to assure back-to-back warranty from respective OEM are procured and assure OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT 's warranty requirements are met. Bidder is also required to provide certificate or proof for above from the OEM.

- Price bid Section: As per bid form only.

Note:

- All the forms should be in the Prescribed Format Only.
- All forms / Tables, duly filled-in with necessary proofs, as required and stated in the bid document & supporting documents for eligibility criteria should be uploaded.

ARTICLE – 7: BID FORMS

- Wherever a specific form is prescribed in the Bid document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information. Failing to submit the information in the prescribed format, the bid is liable for rejection.
- For all other cases, the Bidder shall design a form to hold the required information.
- OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL shall not be bound by any printed conditions or provisions in the Bidder's Bid Forms.

ARTICLE – 8: FRAUDULENT & CORRUPT PRACTICE

- Fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial noncompetitive levels and to deprive the OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL of the benefits of free and open competition.
- "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value, pressurizing to influence the action of a public official in the process of Contract execution.
- OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL will reject a proposal for award and may forfeit the E.M.D. and/or Performance Guarantee if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for, or in executing, contract(s).

ARTICLE – 9: LACK OF INFORMATION TO BIDDER

- The Bidder shall be deemed to have carefully examined all contract documents to his entire satisfaction. Any lack of information shall not in any way relieve the Bidder of his responsibility to fulfill his obligation under the Contract.

ARTICLE – 10: CONTRACT OBLIGATIONS

- If after the award of the contract the bidder does not sign the Agreement or fails to furnish the Performance Bank guarantee along with the inception report and working schedule as per the bid requirements & if the operation are not started within 15 working days after submission of P.B.G. as

mentioned in the bid, GIL reserves the right to cancel the contract and apply all remedies available under the terms and conditions of this contract.

ARTICLE – 11: BID PRICE

- The priced bid should indicate the prices in the format/price schedule only.
- Price shall be inclusive of all freight, forwarding, transit insurance and installation charges. Prices shall be inclusive of Excise Duties. The prices shall strictly be submitted in the given format. Quoted prices shall be without VAT. The tax (VAT) components as applicable shall be mentioned separately in the respective columns. Successful Bidder will have to supply/provide goods with an Invoice from a place located within State of Gujarat.
- Any effort by a bidder or bidder's agent / consultant or representative howsoever described to influence the GIL in any way concerning scrutiny / consideration / evaluation / comparison of the bid or decision concerning award of contract shall entail rejection of the bid.

ARTICLE – 12: BID CURRENCY

- The prices should be quoted in Indian Rupees. Payment for the supply of equipments as specified in the agreement shall be made in Indian Rupees only.

ARTICLE - 13: TAXES & DUTIES

Excise Duty, Sales Tax / VAT

(i) The Seller shall include Excise Duty, Sales Tax / VAT and any other statutory duties and levies ,as applicable for sale to the Government of Gujarat state, and provide the necessary breakdown of costs, in the priced proposal of the proposed tender In the absence of any such breakdown prices, it will be presumed that the prices include all such charges and no claim for the same will be entertained.

(ii) If reimbursement of any charges, such as fright & insurance is intended as extra over the quoted prices, the Seller must specifically say so. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of such duty/tax will be entertained after the opening of tenders.

(iii) Any change in any duty/tax upward / downward as a result of any statutory variation in excise taking place within contract terms shall be allowed to the extent of actual quantum of such duty / tax paid by the supplier. Similarly, in case of downward revision in any duty / tax, the actual quantum of reduction of such duty / tax shall be reimbursed to the Buyer by the Seller. All such adjustments shall include all reliefs, exemptions,

(iv) Unless otherwise specifically agreed to in terms of the contract, the Buyer shall not be liable for any claim on account of fresh imposition and/or increase of Excise Duty on raw materials and / or components used directly in the manufacture of the contracted stores taking place during the pendency of the contract.

(b) Octroi Duty & Local Taxes.

(i) Materials to be supplied to Government Departments against Government Contracts are exempted from levy of town duty, Octroi Duty, Terminal Tax and other levies of local bodies. The local Town / Municipal Body regulations at times, however, provide for such Exemption only on production of such exemption certificate from any authorised officer. Seller should ensure that stores ordered against contracts placed by this office are exempted from levy of Town Duty / Octroi Duty, Terminal Tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the Buyer, to avoid payment of such local taxes or duties.

(ii) In case where the Municipality or other local body insists upon payment of these duties or taxes the same should be paid by the Seller to avoid delay in supplies and possible demurrage charges. The receipt

obtained for such payment should be forwarded to the Buyer without delay together with a copy of the relevant act or bylaws / notifications of the Municipality of the local body concerned to enable him to take up the question of refund with the concerned bodies if admissible under the said acts or rules

ARTICLE – 14: BID SECURITY / EARNEST MONEY DEPOSIT (EMD)

The bidder will have to submit **Non refundable Bid Processing Fees of Rs 15,000/- & Earnest Money Deposit (E.M.D.) of Rs. 10,00,000/- (Rupees Ten Lacs Only) (Refundable)** on or before date & hours of submission of bid in a sealed cover at GIL office with the heading **"Bid processing Fees & EMD for RFP no. GIL\H&N\ADGP (TS) – HD\MCOV\2016-17-2 for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The additional Director General of Police & commissioner, Technical Services, Gujarat State Police, Gandhinagar, Gujarat"**

- Bid processing fees must be in the form of Demand Draft in the name of "Gujarat Informatics Ltd." payable at Gandhinagar along with the covering letter.
- Bid Security / EMD as mentioned above, shall be submitted in the form of Demand Draft **OR** in the form of an unconditional Bank Guarantee **(which should be valid for 15 months from the last date of bid submission)** of any Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative Banks and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2015/508/DMO dated 27.04.2016 issued by Finance Department or further instruction issued by Finance department time to time (as per prescribed format given at Annexure A) and must be submitted along with the covering letter.

  Please affix the stamp of your company on the overleaf of demand draft.

  Note: Failing to submit physical covers of EMD and bid processing fees at GIL on or before **15.03.2017 up to 1500 Hrs** may lead to the rejection of the bid.
- In case of non-receipt of Bid processing fees & EMD as mentioned above, your bid will be rejected by GIL as non-responsive.
- Unsuccessful bidder's E.M.D. will be returned as promptly as possible after the expiration of the period of bid validity OR upon the successful Bidder signing the Contract, and furnishing the Performance Bank Guarantee @ 10% of the total order value as prescribed by GIL, whichever is earlier.
- The successful Bidder's E.M.D. will be returned upon the Bidder signing the Contract, and furnishing the **Performance Bank Guarantee @ 10% of the total order value** and offer of inspection of the ordered material.
- The EMD may be forfeited at the discretion of OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL, on account of one or more of the following reasons:
  a) If a Bidder withdraws their Bid during the period of Bid validity.
  b) If Bidder does not respond to requests for clarification of their Bid
  c) If Bidder fails to co-operate in the Bid evaluation process, and
  d) In case of a successful Bidder, the said Bidder fails:
     i. To sign the Agreement / Contract in time
     ii. To furnish Performance Bank Guarantee
     iii. If the bidder is found to be involved in fraudulent practices.

ARTICLE – 15: PERIOD OF VALIDITY OF BIDS

- **Bids shall remain valid for 12 months after the date of Financial Bid opening** prescribed by GIL. A Bid valid for a shorter period shall be rejected as non-responsive. However considering the future requirements for additional quantity of licenses (if required), Bidder has to supply the same at the finalized discounted rates (as per the financial bid format) during the contract period.
- In exceptional circumstances, GIL may solicit Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid security shall also be suitably extended.

ARTICLE – 16: BID DUE DATE

- Bid must be uploaded by bidder not later than the date specified in the RFP.
- The GIL may, as its discretion, extend the bid due date, in which case all rights and obligations of the GIL and the bidders, previously subject to the bid due date, shall thereafter be subject to the new bid due date as extended.

ARTICLE – 17: LATE BID

- No bidder may be able to upload or submit the bid after the bid due date/time.

ARTICLE – 18: MODIFICATION AND WITHDRAWAL OF BID

- The Bidder may modify or withdraw its bid before the due date of bid submission.
- No Bid may be modified subsequent to the deadline for submission of bids.
- No Bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of Bid validity specified by the Bidder on the bid letter form. Withdrawal of a Bid during this interval may result in the bidder's forfeiture of its Bid security.

ARTICLE – 19: OPENING OF BIDS BY GIL

- Bids will be opened in the presence of Bidder's representatives, who choose to attend. The Bidder's representative who is present shall sign a register evidencing their attendance.
- The Bidder's names, Bid modifications or withdrawals, discounts and the presence or absence of relevant Bid security and such other details as the GIL officer at his/her discretion, may consider appropriate, will be announced at the opening.
- Immediately after the closing time, the GIL contact person shall open the Un-priced Bids and list them for further evaluation.

ARTICLE – 20: CONTACTING GIL

- Bidder shall not approach GIL officers outside of office hours and/ or outside GIL office premises, from the time of the Bid opening to the time the Contract is awarded.
- Any effort by a bidder to influence GIL officers in the decisions on Bid evaluation, bid comparison or contract award may result in rejection of the Bidder's offer. If the Bidder wishes to bring additional information to the notice of the GOG, it should do so in writing.
- In case bidder wants to furnish information regarding blacklist of other bidders, they have to provide documentary evidence for the same, without documentary evidence such representation will not be entertained.

ARTICLE – 21: REJECTION OF BIDS

- GIL's right to reject any or all bids: GIL reserves the right to reject any Bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision.

ARTICLE – 22: EXAMINATION OF BIDS

- GIL will evaluate the proposals submitted by the bidders for a detailed scrutiny. During evaluation of proposals, GIL, may, at its discretion, ask the bidders for clarification of their Proposals.
- The Eligibility criteria will be evaluated first to ascertain the eligibility of the Bidders.
- The technical bids of the bidders who comply with the eligibility criteria will be opened. The technical evaluation would be based on the proposal of Bidder meeting the specifications mentioned in the RFP document and other compliance / undertaking provided by bidder for the Scope of Work & terms and conditions of the RFP. In case of conditional bid or major deviations from the RFP requirements, OFFICE

OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT /GIL may seek the clarification in writing from the bidder, if required. If bidder fails to submit the required clarifications in due time, the technical evaluation will be done based on the information submitted in the technical bid. The bidders may be called for making technical presentation of their offered solutions.

- The Financial Bids of Technically qualified bidders only would be opened and evaluated to determine the L1 bidder.

ARTICLE – 23: AWARD OF CONTRACT

- Award Criteria: The Criteria for selection will be the lowest effective cost for the technically qualified bids.
- The quantities may decrease or increase of the bid quantity at the time of finalization, depending upon the change in the requirements/grants available with the purchaser(s), which shall be binding to the bidder.
- Contract Period: The contract period shall for the period of 15 months.
- In case, if lowest bidder does not accept the award of contract or is found to be involved in corrupt and/or fraudulent practices the next lowest bidder will be awarded the contract. In such scenario, the lowest bidder has to bear the difference between lowest prices and next lowest prices.
- The rates should be valid for 12 months. However considering the future requirements for additional quantity of licenses (if required), Bidder has to supply the same at the finalized discounted rates (as per the financial bid format) during the contract period.

ARTICLE – 24: NOTIFICATION OF AWARD & SIGNING OF CONTRACT

- Prior to expiration of the period of Bid validity GIL will notify the successful Bidder and issue LoI/Purchase Order.
- Successful bidders will have to sign the contract upon receiving the Purchase order with the purchaser(s) within 15 working days from the date of Purchase order. (The draft of the Contract form is attached herewith). The Bank Guarantee shall be valid for duration of 90 days beyond the expiry of contract.

ARTICLE – 25: DELIVERY & IMPLEMENTATION SCHEDULE

- Implementation of the MCOV – 6 months from the date of issuance of confirmed Work Order.

ARTICLE – 26: LIMITATION OF VENDOR'S LIABILITY

- Notwithstanding anything contained in the Contract, Vendor's liability will be only for actual direct damages and shall be capped and limited to double the charges or the amounts paid or due and payable to Vendor for the Services that are the subject of the claim.

ARTICLE – 27: FORCE MAJEURE

- Force Majeure shall mean any event or circumstances or combination of events or circumstances that materially and adversely affects, prevents or delays any Party in performance of its obligation in accordance with the terms of the Agreement, but only if and to the extent that such events and circumstances are not within the affected party's reasonable control, directly or indirectly, and effects of which could have prevented through Good Industry Practice or, in the case if construction activities through reasonable skill and care, including through the expenditure of reasonable sums of money. Any events or circumstances meeting the description of the Force Majeure which have same effect upon the performance of any contractor shall constitute Force Majeure with respect to the Bidder. The Parties shall ensure compliance of the terms of the Agreement unless affected by the Force Majeure Events. The Bidder shall not be liable for forfeiture of its implementation / Performance guarantee, levy of Penalties, or termination for default if and to

the extent that its delay in performance or other failure to perform its obligations under the Agreement is the result of Force Majeure.

- Force Majeure Events

  The Force Majeure circumstances and events shall include the following events to the extent that such events or their consequences (it being understood that if a causing event is within the reasonable control of the affected party, the direct consequences shall also be deemed to be within such party's reasonable control) satisfy the definition as stated above.

  Without limitation to the generality of the foregoing, Force Majeure Event shall include following events and circumstances and their effects to the extent that they, or their effects, satisfy the above requirements:

- Natural events ("Natural Events") to the extent they satisfy the foregoing requirements including:
  a) Any material effect on the natural elements, including lightning, fire, earthquake, cyclone, flood, storm, tornado, or typhoon;
  b) Explosion or chemical contamination (other than resulting from an act of war);
  c) Epidemic such as plague;
  d) Any event or circumstance of a nature analogous to any of the foregoing.
- Other Events ("Political Events") to the extent that they satisfy the foregoing requirements including:
- Political Events which occur inside or Outside the State of Gujarat or involve directly the State Government and the Central Government ("Direct Political Event"), including:
  i. Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil commotion, act of terrorism or sabotage;
  ii. Strikes, work to rules, go-slows which are either widespread, nation-wide, or state-wide and are of political nature;
  iii. Any event or circumstance of a nature analogous to any of the foregoing.

- FORCE MAJEURE EXCLUSIONS

  Force Majeure shall not include the following event(s) and/or circumstances, except to the extent that they are consequences of an event of Force Majeure:
  a) Unavailability, late delivery
  b) Delay in the performance of any contractor, sub-contractors or their agents;

- PROCEDURE FOR CALLING FORCE MAJEURE

  The Affected Party shall notify to the other Party in writing of the occurrence of the Force Majeure as soon as reasonably practicable, and in any event within 5 (five) days after the Affected Party came to know or ought reasonably to have known, of its occurrence and that the Force Majeure would be likely to have a material impact on the performance of its obligations under the Agreement.

ARTICLE – 28: CONTRACT OBLIGATIONS

Once a contract is confirmed and signed, the terms and conditions contained therein shall take precedence over the Bidder's bid and all previous correspondence.

ARTICLE – 29: AMENDMENT TO THE AGREEMENT

Amendments to the Agreement may be made by mutual agreement by both the Parties. No variation in or modification in the terms of the Agreement shall be made except by written amendment signed by both the parties. All alterations and changes in the Agreement will take into account prevailing rules, regulations and laws.

ARTICLE – 30: USE OF AGREEMENT DOCUMENTS AND INFORMATION

- The Bidder shall not without prior written consent from GIL disclose the Agreement or any provision thereof or any specification, plans, drawings, pattern, samples or information furnished by or on behalf of GIL in connection therewith to any person other than the person employed by the Bidder in the performance of the Agreement. Disclosure to any such employee shall be made in confidence and shall extend only as far as may be necessary for such performance.
- The Bidder shall not without prior written consent of GIL make use of any document or information made available for the project except for purposes of performing the Agreement.
- All project related documents issued by GIL other than the Agreement itself shall remain the property of GoG and Originals and all copies shall be returned to GoG on completion of the Bidder's performance under the Agreement, if so required by the GIL.

ARTICLE – 31: ASSIGNMENT & SUB CONTRACTS

- Assignment by Bidder

  The Bidder shall not assign, in whole or in part, its rights and obligations to perform under the Agreement to a third party, except with the prior written consent from OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT.

- Sub contracts

  The Bidder shall notify the GIL in writing of all subcontracts awarded under the Contract Agreement. Such notification shall not relieve the Bidder from any liability or obligation under the Agreement. The Bidder shall fully indemnify GIL for any claims/damages whatsoever arising out of the Sub contracts.

- As per the provision in Electronics & IT/ITeS Start-up Policy Resolution No. ITS/10/2015/5284/IT dated 6th June, 2016 issued by Department of Science & Technology; in e-Governance project undertaken by Government Departments or its Boards, Corporations or parastatal bodies getting grants from the Government, the chosen solution provider or system integrator will pass on job work or will outsource part of the work of a value ranging between 5% to 10% of the contract value to the eligible start-ups and to students of short listed Technical Colleges in Gujarat. In such arrangements, the responsibility of meeting SLAs (Service Level Agreements) will continue to belong to the solution provider or the system integrator.

ARTICLE – 32: RESOLUTION OF DISPUTES

- If any dispute arises between the Parties hereto during the subsistence or thereafter, in connection with the validity, interpretation, implementation or alleged material breach of any provision of the Agreement or regarding a question, including the questions as to whether the termination of the Contract Agreement by one Party hereto has been legitimate, both Parties hereto shall endeavor to settle such dispute amicably. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts [which attempt shall continue for not less than 30 (thirty) days], give 15 days notice thereof to the other Party in writing.
- In the case of such failure the dispute shall be referred to a sole arbitrator or in case of disagreement as to the appointment of the sole arbitrator to three arbitrators, two of whom will be appointed by each Party and the third appointed by the two arbitrators.
- The place of the arbitration shall be Gandhinagar, Gujarat.
- The Arbitration proceeding shall be governed by the Arbitration and Conciliation Act of 1996 as amended.
- The proceedings of arbitration shall be in English language.
- The arbitrator’s award shall be substantiated in writing. The arbitration tribunal shall also decide on the costs of the arbitration procedure. The Parties hereto shall submit to the arbitrator’s award and the award shall be enforceable in any competent court of law.

ARTICLE – 33: BOOKS & RECORDS

Bidder shall maintain adequate books and records in connection with Contract and shall make them available for inspection and audit by GoG during the term of the Contract until expiry of the performance guarantee.

ARTICLE – 34: WARRANTY TERMS

All goods/services shall be supplied strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated in the Bid / Order / LOI. All materials supplied by the Bidder shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials. In event of default originating with the design, material arising at any time during the Warranty period of 1 year from the date of FAT, the Bidder shall replace as may be necessary to ensure the material should function in accordance with the specification and to fulfill the foregoing Warranty without any delay. The Bidder shall warrant that every work executed under the contract shall be free from all defects and faults in material, workmanship etc. for a period of warranty period from the date of Acceptance test.

In the event that the materials/services supplied do not meet the specifications and/or Scope of work, GIL shall notify the Bidder giving full details of difference. The Bidder shall attend the issue within 15 days of receipt of such notice to meet and agree with representatives of GIL, the action required to correct the deficiency. Should the Bidder fail to address the issues within the time specified above, GIL shall be at liberty to rectify the work/materials and Bidder shall reimburse GIL all costs and expenses incurred in connection with such trouble or defect.

ARTICLE – 35: PERFORMANCE GUARANTEE

- The Bidder shall furnish Performance Guarantee as provided in the bid document to GIL for an amount equal to 10% of the total value of Order.
- The performance guarantee will be in the form of bank guarantee for the amount equal of 10% of the value of the Order towards faithful performance of the contract obligation, and performance of the equipment for period of Contract period plus three months. In case of poor and unsatisfactory field services, GIL shall invoke the PBG.
- The Successful bidder has to submit Performance Bank Guarantee @ 10% of total order value within 15 days from the date of issue of Purchase order for duration of Contract period plus three months of any Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2015/508/DMO dated 27.04.2016 issued by Finance Department or further instruction issued by Finance department time to time. (The draft of Performance Bank Guarantee is attached herewith).
- The Performance Guarantee shall be discharged by OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT and returned to the Bidder within 30 days from the date of expiry of the Performance Bank Guarantee.

ARTICLE – 36: PAYMENTS TERMS

The Payment will be made as mentioned under:

- No advance payment will be made.
- Payment of 30 % of contracted value shall be paid at the time of delivery & installation of the vehicle along with all the subsystems installed in it.
- Payment of 30 % of the contracted value (including taxes as applicable) shall be paid after successful installation, commissioning, integration of all the functional equipment and completion of FAT which shall include successful demonstration of all the functionalities & features.
- Remaining payment of 40 % will be done in 4 equal installments at the end of each quarter after FAT.

ARTICLE – 37: SERVICE TERMS

- The entire scope of the work depends on the technical skill and experience in management of the same level or kind of infrastructure.
- It is mandatory for Bidder to deploy qualified professional to install and commission the solutions as defined under scope of work.
- The Bidder has to deploy necessary problem escalation process & system to take care predefined VIP users at the priority.
- The Bidder is free to deploy or develop application to facilitate the operation. GIL will welcome the deployment such application in respect to improve Quality of Services.
- For extending better services to the government, the Bidder will be allowed to deploy & use own tested and proven solution, with prior permission from the GIL.
- The Bidder need to manage & maintain various records related to the services extended to the Government.
- The Government network is being operated & maintained by various agencies. In such circumstances the Bidder may need to coordinate and approach various agencies, if required.
- The Bidder need to maintain the required security of network, database, etc. related to the government operations.
- The Bidder is responsible to maintain proper necessary documentation and have to update the same on regular basis.
- The understanding of the comprehensive maintenance is as follows.
  a) In case of failure, the Bidder needs to replace or repair the faulty part/component/device to restore the services at the earliest.
  b) The cost of the repairing or replacement of faulty part/component/device has to be entirely born by the Bidder.
  c) All expenses related to part/component/device, including hiring of specialized technical expertise, in case required, has to be borne by the Bidder as part of comprehensive maintenance.
  d) After repairing or replacement of the part/ component/ device, the Bidder needs to put the same into operation.

ARTICLE – 38: PENALTY CLAUSE

The penalties will be as defined in **Section 3 -Service Levels & Penalties**

ARTICLE – 39: PROJECT IMPLEMENTATION

- The Bidder will implement the project strictly as per Delivery & Implementation Schedule as mentioned in this RFP from the date of issuing of LOI/PO and complete their provisional Acceptance Test to the satisfaction of GIL.
- GIL/The Additional Director General of Police (Technical Services) Gujarat Police will be Engineer-In-Charge of the Project and all inspection, installation, commissioning and acceptance of work will be undertaken by GIL/The Additional Director General of Police (Technical Services) Gujarat Police appointed representatives. All Invoices, Vouchers, bills for supplied goods and services by the Supplier under the scope of the work will be verified measured and accepted by the Engineer-In-Charge, for release of payment.
- As part of implementation the Bidder shall provide details of equipment that will be incorporated in the proposed system, material and manpower as required.
- The Bidder shall provide the necessary technical support, Standard Operating Procedure (SOP), and other information to GoG and its user organizations in implementing the proposed solution. The Bidder shall provide training to GoG Personnel at no cost to GoG. The training schedule, content and modalities will be defined jointly by both the parties.
- The Bidder may have to work during Holidays and Sundays, according to the urgency of work. The Bidder will obtain such permission on his own in consultation with the Engineers-in-charge.

- In case of the material/solution supplied and installed is rejected owing to its non-conformity to the specification or due to the poor quality of workmanship, the same shall be replaced promptly.
- Bidder shall treat all matters connected with the contract strictly confidential and shall undertake not to disclose, in any way, information, documents, technical data, experience and know how, without prior written permission from GIL.
- Any damage caused to the property of GIL while executing the job shall be solely Bidder's responsibility. In case any damage to the property is caused, the same will be recovered from the Bidders. No any extra cost shall be paid to the Bidder for such reasons.
- The Bidder shall have to furnish the documentation of the work undertaken in consultation with Engineer-in-charge. Three sets of such documentation should be provided before the issue of completion certificate.
- It is a turnkey project. The Bidder shall be fully responsible for implementing the Project in totality and should include the items and their prices, if not included in Schedule of Requirement to complete the project on turnkey basis. Any claim whatsoever in this regard will not be entertained later on.
- In the event of the delay in delivery of contracted goods/services or goods/services are not confirming to Scope of work, GIL may procure goods/services from elsewhere as prescribed in bid and Bidder shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the contract for the goods/services involved i.e. at the risk and cost of the Bidder.
- The bidder shall be responsible and take required insurance for all of their representations working on the site at their own cost. GIL will not be responsible for any loss or damage to any of the representatives of the bidder during the said contract.
- All work shall be performed and executed by the bidder in strict conformity with the engineer-in-charge / representative from GIL and any relative instruction issued to the bidder by the Engineer- in-charge time to time.
- The Bidder shall ensure proper participation of the nominated personnel from OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT and train them on the solution. Also Bidder shall organize the systematic training of selected personnel from GIL on the operation / management of solution.

ARTICLE – 40: FINAL ACCEPTANCE TEST (FAT)

Acceptance Test will be conducted in as follows:

- GIL / Office of the ADGP (Technical Services), Home Department reserves the right to inspect equipments and material, prior to dispatch. The Supplier should submit the Factory Acceptance Test reports for approval of GIL / Office of the ADGP (Technical Services), Home Department. The cost of all such tests shall be borne by the Supplier. If any of the inspected goods fail for confirm to specification after installation, GIL / Office of the ADGP (Technical Services), Home Department may reject them and the Supplier shall have to replace the rejected goods. In case of inspection waiver, the same shall be obtained before the dispatch of goods. Inspection of rest of material shall be done at site by the GIL / Office of the ADGP (Technical Services), Home Department. Sample approval should be obtained before installation for such material.
- Final Acceptance Test (FAT): After successful installation of the Solution in accordance with the requirements as mentioned in Schedule of Requirement, Final Acceptance Test will be conducted. After successful testing by the Engineer-in-charge of OFFICE OF THE ADGP (TECHNICAL SERVICES), HOME DEPARTMENT, Acceptance Test Certificate will be issued to the Bidder.
- The date on which Acceptance certificate is issued shall be deemed to be the date of successful commissioning of the solution.
- Any delay by the Bidder in the Acceptance Testing shall render the Bidder liable to the imposition of appropriate Penalties.

ARTICLE – 41: SOFTWARE LICENSES (IF APPLICABLE)

The Bidder shall be responsible for providing Software license, if required, to meet any additional requirements during the contract period of the Agreement without any additional cost to GIL.

ARTICLE – 42: INSTALLATION OF ADDITIONAL HARDWARE (IF APPLICABLE)

During the currency of the Agreement, for any additional requirement of equipment including interface equipment, the specifications will be provided by the Bidder. Engineer-in-charge of GIL/The Additional Director General of Police (Technical Services) Gujarat Police will verify suitability of the specifications submitted by Bidder and recommend to GIL for acceptance. The Bidder will be obligated to undertake integration, operation and maintenance for all additional equipment if required.

ARTICLE – 43: SUPPORT FROM EXTERNAL AGENCY (IF APPLICABLE)

In case, if Bidder wish to have support from any external agency, it's very necessary to inform GIL in written prior to allow them to work on GIL infrastructure. The information should contain all respective information about the company from whom support has been extended, the person/group of people and the segment in which services has been taken. On completion of the task, another report should be submitted by mentioning action taken by this person/group of people from external agency, with duration. The Bidder is sole responsible for the action taken by such agency on their behalf. No Data/ Information should be sent out of the premise without obtaining prior written confirmation from the GIL.

Section - 5

Format of Forms

Bid Processing Fees & Earnest Money Deposit Details

Sr. No.	Item	Amount (In Rs.)	Name of the Bank & Branch	Demand Draft No.
1	Bid Processing Fees			
2	Earnest Money Deposit (E.M.D.)			

ELIGIBILITY CRITERIA

Form No. 1: Certificate of Registration/Incorporation

Sr. No.	Name of Organization	Address	Certification Date	Copy of Certificate of Registration / Incorporation uploaded?
1				

Note: Please fill this form and upload the copy of Certificate of Registration/Incorporation.

Form No. 2: Financial strength of the bidder

Financial Year	Turnover (Rs. In Crores)	Audited Accounts uploaded? (Yes/No)
2013-14		
2014-15		
2015-16		
Grand Total		

Note: Please fill this form and upload the Audited Annual Accounts / Balance Sheet along with Profit & Loss Account for the last three financial years.

Form No. 3: Bidder's Experience (Customer References)

Sr. No.	Name of the Organization	Contact Person	Contact Telephone Number & address	Date and Period of Contract	Project Cost	The work is done directly or through sub contractor / company	Description of work	Type of Supporting Document Attached
1								
.								

Note: Please fill this form and upload the supporting documents (Work Order(s)/Customer Reference and Completion Certificate) in scanned format for the details of such projects under taken along with clients' on-going/completion certification/ letter should been closed. Failing the same may lead to the rejection of the bid. You may add the customer references by adding multiple rows which may be added by "NUMBER OF ROWS TO ADD".

Form No. 4: OEM Authorization / Bidder Undertaking Letters

Sr. No.	Item	OEM Authorization / Bidder Undertaking letter Submitted? (Yes/No)

Note: Please fill this form and upload the OEM Authorization Letter in scanned format.Failing the same may lead to the rejection of the bid. You may add the customer references by adding multiple rows which may be added by "NUMBER OF ROWS TO ADD".

Format: CONFIDENTIALITY CERTIFICATE

(To be submitted on the Bidder letterhead)

<<Insert Date and location>>

Proposal Reference No:

To
The Managing Director,
Gujarat Informatics Limited
Block No.1, 8th Floor,
Udyog Bhavan,
Gandhinagar – 382 010

Dear Madam/Sir,

Subject: Submission of proposal in response to RFP for "Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat

It is certified that the Company or any representative of the Company or agents authorized by them will not disclose any information gained by them, while interacting with the persons of the concerned Police department personnel, or disclose any documents prepared in connection with the project or any documents received by them or any study carried out by them, directly or indirectly to any person or company or institution or press, unless authorized by the Gujarat Police department, in writing.

(Authorised Signatory of Company)

Name & Designation

Company Seal

Place :

Date :

Technical Stage

1. Make & Model Form

Sr. No.	Product / Service Description	Qty.	Make	Model	Supporting Document Submitted (Yes/ No)
A	**Mobile Communication Office Vehicle**				
1	Vehicle Chassis shall be from a reputed vendor like SML/Eicher/Tata/Ashok Leyland Wheel Base: More than 5000 mm, 6-tyre model Minimum Engine Output: BS IV CRDi 75Kw @2800 rpm Emission: Bharat Stage-IV Mechanical Fabrication Work as mentioned below: - Driver, Genset & Operator Cabin - Side Entry & Emergency Exit - Mast & Genset related Fabrication - Operator Cabin Interiors - Operator Cabin AC running on external diesel generator - Internal Power & Data Cabling along with external raw power outlet - Internal Wall & Floor fabrication - Roof Fabrication for DTH Antenna - Interior Furniture work for Storage racks, Video Display - Conference Area - 4 Operator Console	1			
2	6 KVA UPS System with Batteries for 1 Hr. backup	1			
3	5.5 KVA Petrol Generator with Cantilever mounts and accessibility from side of the vehicle	2			
4	Vehicle Integrated standalone Diesel Genset for the Operator Cabin AC	1			
5	MIL Std 19" 40U Rack with shock & vibration isolators for all electronic equipment	1			
6	MIL Std 19" 14U Rack with Integrated Operator Console with Dual 32" Display	2			
7	Pneumatic Mast 6M	2			
B	**Routing/Switching/Security Solution for MCOV**				
1	24 Port GigE Switch for MCOV	1			
2	3G/4G, VSAT Router for MCOV	1			
3	Firewall with IPS for MCOV	1			
C	**Integrated Communication System for MCOV & Police Control Room**				
1	Integrated Communication System	2			
2	Virtual or Physical server with Communication Software in High Availability (HA) setup	2			
3	Router with Required Chassis	2			
4	Rugged android phones with min IP67 Rating	4			
D	**Other Communication Equipment**				
1	Antenna Subsystems	As required			
2	Satellite Phone	1			
3	HF Radio	1			
4	HF Radio Manpack	1			
5	Backhaul Connectivity & related infrastructure	1			
6	BGAN Satellite Terminal	1			
7	VSAT Satellite communication on the Halt	1			
8	WI-FI Hotspot Antenna	1			
9	Real-Time Video Streaming Encoder with Storage	1			
10	Wireless Access Point for MCOV	1			
11	Wireless Access Point (External)	6			
12	IP Phone for Unified Communications (Wired)	2			
13	IP Phone for Unified Communications (Wireless)	6			
E	**MCOV Operation & Video Conferencing System**				
1	HD Videoconferencing with High-resolution camera with 12X optical zoom, Codec and	1			

Sr. No.	Product / Service Description	Qty.	Make	Model	Supporting Document Submitted (Yes/ No)
	Microphone				
2	65"LED Full HD TV (Internal)	1			
3	55" High Brightness Display (External)	1			
4	Operator Workstation PC	3			
5	Ruggedized Laptop	5			
6	Ruggedized Tablets	5			
7	Ruggedized Mobiles	5			
F	**MCOV Periphery Video Surveillance System**				
1	Vibration Proof - Fixed Camera (4 Outside + 1 Inside) with external IR Lights	5			
2	Vehicle Mast Mounted PTZ Camera	1			
3	Non Line of Sight (NLOS), battery powered, body-worn Wireless Cameras with COFDM Transmitters and Antennas	4			
4	Non Line of Sight Wireless Receiver with display & recording capabilities to show the video feed from all NLOS Cameras	4			
5	Server based Network Video Recorder with Video Management Software & 16 GB storage	1			
6	24x7 Tethered Drone with gyro stabilized HD Camera Payload and the Ground control Station	1			
G	**Other MCOV Items**				
1	Mobile DTH Set-Top Box with Auto tracking Antenna for LIVE TV	1			
2	LED Flood Lights with 120 degree coverage (Mast Mounted)	2			
3	PA System with 4 Speakers	1			
4	All-In-One Heavy Duty Printer, Copier, Scanner & Fax	1			
5	GSM based Fax Modem	1			
6	Fire Extinguisher & First-Aid Box	1			
7	Vehicle Mounted Mini Refrigerator	1			
8	GPS Based vehicle tracking & Navigation	1			
9	Radio Test Set For Testing Analog & Digital radio	1			
10	Soldering & De soldering Station	1			
11	Communication tool kit	1			

Note: the above mentioned Bill of Material is Minimum required. Bidder may propose additional bill of material to fulfill the scope of work as mentioned in this RFP.

2. Bidder is required to submit Line by Line compliance of minimum required Technical Specifications for each & every equipments as mentioned in this RFP.

3. Bidder is required submit the detailed design along with the layout of the proposed MCOV vehicle and the proposed technical solution document detailing proposed functionality of each & every subsystems as mentioned in this RFP, as per their proposed technical bid.

Note: Bidders are required to upload all the required documents in the relevant sections.

Format 1: Performa of Compliance letter/Authenticity of Information Provided

(On Non judicial Stamp paper of Rs. 100/- duly attested by the First class Magistrate/Notary Public)

Date:

To,
DGM (Tech.)
Gujarat Informatics Ltd.
Block-1, 8th Floor, Udyog Bhavan,
Gandhinagar

Subject: Compliance with the RFP terms and conditions, specifications and Eligibility Criteria

Reference: RFP for "Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat

Dear Sir,

With reference to above referred tender, I, undersigned <<Name of Signatory>>, in the capacity of <<Designation of Signatory>>, is authorized to give the undertaking on behalf of <<Name of the bidder>>.

We wish to inform you that we have read and understood the technical specification and total requirement of the above mentioned bid submitted by us on **DD.MM.YYYY.**

We hereby confirm that all our quoted items meet or exceed the requirement and are absolutely compliant with specifications mentioned in the bid document.

We also explicitly understand that all quoted items meet technical specification of the bid & that such technical specification overrides the brochures/standard literature if the same contradicts or is absent in brochures.

In case of breach of any RFP terms and conditions or deviation from bid specification other than already specified as mentioned above, the decision of GIL Tender Committee for disqualification will be accepted by us.

The Information provided in our submitted bid is correct. In case any information provided by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our EMD/ PBG/cancel the award of contract. In this event, GIL reserves the right to take legal action on us.

Thanking you,

Dated this _____ day of_____YYYY

Signature: _____
(In the Capacity of) :_____
Duly authorized to sign bid for and on behalf of
_____

Note: This form should be signed by authorized signatory of bidder

Format 2: General Information

Sr. No	Particulars	Details to be furnished		
1.	Details of responding Bidder			
a)	Name			
b)	Address			
c)	Telephone		Fax	
d)	Website			
2.	Details of Contact Person			
a)	Name			
b)	Designation			
c)	Address			
d)	Telephone no.			
e)	Mobile no.			
f)	Fax no.			
g)	E-mail			
3.	Details of Authorized Signatory *(please attach proof)*			
a)	Name			
b)	Designation			
c)	Address			
d)	Telephone no.			
e)	Mobile no.			
f)	Fax no.			
g)	E-mail			
4.	Information about responding Bidder			
a)	Status of Bidder *(Public Ltd. / Pvt. Ltd etc.)*			
b)	No. of years of operation in India			
c)	Details of Registration *(Ref e.g. ROC Ref #)*	Date		
		Ref #		
d)	No. of resources/ staff in India			
e)	Locations and addresses of offices (in India and overseas)			

Section - 6

Price Bid Schedule

Financial Bid Format:

A. Vehicle Subsystems & equipment Cost

Sr. No.	Product / Service Description	Qty.	Make & Model	Unit rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Total rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Rate of Tax
A	**Mobile Communication Office Vehicle**					
1	Vehicle Chassis shall be from a reputed vendor like SML/Eicher/Tata/Ashok Leyland Wheel Base: More than 5000 mm, 6-tyre model Minimum Engine Output: BS IV CRDi 75Kw @2800 rpm Emission: Bharat Stage-IV Mechanical Fabrication Work as mentioned below: - Driver, Genset & Operator Cabin - Side Entry & Emergency Exit - Mast & Genset related Fabrication - Operator Cabin Interiors - Operator Cabin AC running on external diesel generator - Internal Power & Data Cabling along with external raw power outlet - Internal Wall & Floor fabrication - Roof Fabrication for DTH Antenna - Interior Furniture work for Storage racks, Video Display(2x2) - Conference Area - 4 Operator Console	1				
2	6 KVA UPS System with Batteries for 1 Hr. backup	1				
3	6.5 KVA Petrol Generator with Cantilever mounts and accessibility from side of the vehicle	2				
4	Vehicle Integrated standalone Diesel Genset for the Operator Cabin AC	1				
5	MIL Std 19" 40U Rack with shock & vibration isolators for all electronic equipment	1				
6	MIL Std 19" 14U Rack with Integrated Operator Console with Dual 32" Display	2				
7	Pneumatic Mast 6M	2				
B	**Routing/Switching/Security Solution for MCOV**					
1	24 Port GigE Switch for MCOV	1				
2	3G/4G, VSAT Router for MCOV	1				

Sr. No.	Product / Service Description	Qty.	Make & Model	Unit rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Total rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Rate of Tax
3	Firewall with IPS for MCOV	1				
C	**Integrated Communication System for MCOV & Police Control Room**					
1	Integrated Communication System	2				
2	Virtual or Physical server with Communication Software in High Availability (HA) setup	2				
3	Router with Required Chassis	2				
4	Rugged android phones with min IP67 Rating	4				
D	**Other Communication Equipment**					
1	Antenna Subsystems	As required				
2	Satellite Phone	1				
3	HF Radio	1				
4	HF Radio Manpack	1				
5	Backhaul Connectivity & related infrastructure	1				
6	BGAN Satellite Terminal	1				
7	Satellite on the halt systems	1				
8	WI-FI Hotspot Antenna	1				
9	Real-Time Video Streaming Encoder with Storage	1				
10	Wireless Access Point for MCOV	1				
11	Wireless Access Point (External)	6				
12	IP Phone for Unified Communications (Wired)	2				
13	IP Phone for Unified Communications (Wireless)	6				
E	**MCOV Operation & Video Conferencing System**					
1	Full HD 1080p Tele-presence Unit with High-resolution camera with 12X optical zoom, Codec and Microphone	1				
2	65"LED Full HD TV (Internal)	1				
3	55” High Brightness Display (External)	1				
4	Operator Workstation PC	3				
5	Ruggedized Laptop	5				
6	Ruggedized Tablets	5				
7	Ruggedized Mobiles	5				
F	**MCOV Periphery Video Surveillance System**					
1	Vibration Proof - Fixed Camera (4 Outside + 1 Inside) with external IR Lights	5				
2	Vehicle Mast Mounted PTZ Camera	1				

Sr. No.	Product / Service Description	Qty.	Make & Model	Unit rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Total rate (in Rs.) w/o tax including 1 year Warranty & installation cost	Rate of Tax
3	Non Line of Sight (NLOS), battery powered, body-worn Wireless Cameras with COFDM Transmitters and Antennas	4				
4	Non Line of Sight Wireless Receiver with display & recording capabilities to show the video feed from all NLOS Cameras	4				
5	Server based Network Video Recorder with Video Management Software & 16 GB storage	1				
6	24x7 Tethered Drone with gyro stabilized HD Camera Payload and the Ground control Station	1				
G	**Other MCOV Items**					
1	Mobile DTH Set-Top Box with Auto tracking Antenna for LIVE TV	1				
2	LED Flood Lights with 120 degree coverage (Mast Mounted)	2				
3	PA System with 4 Speakers	1				
4	All-In-One Heavy Duty Printer, Copier, Scanner & Fax	1				
5	GSM based Fax Modem	1				
6	Fire Extinguisher & First-Aid Box	1				
7	Vehicle Mounted Mini Refrigerator	1				
8	GPS Based vehicle tracking & Navigation	1				
9	Radio Test Set For Testing Analog & Digital radio	1				
10	Soldering & De soldering Station	1				
11	Communication tool kit	1				
H	**Project Management**					
1	Detailed 4-Day training on the MCOV and other sub-systems	1				
2	Integration, Testing, Installation & commissioning	1				
	Total (in Rs.) excluding taxes					

B. Recurring Cost (Bandwidth Charges)

Sr. No.	Item Description	Qty.	Service provider	Monthly Rate Without Tax (Rs.)	Yearly Rate Without Tax (Rs.)	Rate of Tax
1	Proposed Satellite (BGAN) bandwidth charges	**100Mb**				
2	Proposed VSAT Bandwidth charges	**2 Mbps**				
	Total (in Rs.) excluding taxes					

Summary

Sr. No.	Particulars	Total Amount (Rs.) excluding taxes	Rate of Tax
A	**Vehicle Subsystems & equipment Cost**		
B	**Total amount Recurring Cost (Bandwidth Charges)**		

	Grand Total (Total A + B)		

Note:

1. Grand Total of above summary table i.e. Grand total of 'Vehicle Subsystems & equipment Cost' & 'Total amount Recurring Cost (Bandwidth Charges)' excluding taxes as quoted in the above tables shall be considered for evaluation.
2. The rates quoted shall be inclusive of Integration, Testing, Installation & Commissioning costs.
3. Department may or may not purchase all of the equipments as mentioned above. The payment shall be made only for equipments purchased at finalized rates, based on the availability of funds.

Annexure A

Format of Earnest Money Deposit in the form of Bank Guarantee

Ref: Bank Guarantee No.
Date:

To,
DGM (Technical)
Gujarat Informatics Limited
8th Floor, Block -1, Udyog Bhavan,
Sector - 11, Gandhinagar - 382010
Gujarat, India

Whereas ---------- (here in after called "the Bidder") has submitted its bid dated ---------- in response to the RFP no:**<<>> dated DD.MM.YYYY for Supply, Installation, Configuration, Integration and Commissioning of Mobile Communication Office Vehicle (MCOV) on Behalf of The Additional Director General of Police & Commissioner, technical Services, Gujarat State Police, Gandhinagar, Gujarat**, KNOW ALL MEN by these presents that WE ---------- ---------- ---------- having our registered office at ---------- ---------- ---- ---------- (hereinafter called "the Bank") are bound unto the _____, Gujarat Informatics Limited in the sum of ---------- for which payment well and truly to be made to Gujarat Informatics Limited , the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this ----------day of ---------- ----2016.

THE CONDITIONS of this obligation are:

1. The E.M.D. may be forfeited:
    a. if a Bidder withdraws its bid during the period of bid validity
    b. Does not accept the correction of errors made in the tender document;
    c. In case of a successful Bidder, if the Bidder fails:
        (i) To sign the Contract as mentioned above within the time limit stipulated by purchaser or
        (ii) To furnish performance bank guarantee as mentioned above or
        (iii) If the bidder is found to be involved in fraudulent practices.
        (iv) If the successful bidder fails to submit the Performance Bank Guarantee & sign the Contract Form within prescribed time limit, the EMD of the successful bidder will be forfeited. GIL also reserves the right to blacklist such bidder from participating in future tenders if sufficient cause exists.

We undertake to pay to the GIL/Purchaser up to the above amount upon receipt of its first written demand, without GIL/ Purchaser having to substantiate its demand, provided that in its demand GIL/ Purchaser will specify that the amount claimed by it is due to it owing to the occurrence of any of the abovementioned conditions, specifying the occurred condition or conditions.

This guarantee will remain valid up to 15 months from the last date of bid submission. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that the guarantee herein contained shall continue to be enforceable till the OWNER/PURCHASER discharges this guarantee.

The Bank shall not be released of its obligations under these presents by any exercise by the OWNER/PURCHAER of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the OWNER/PURCHASER or any other indulgence shown by the OWNER/PURCHASER or by any other matter or things.

The Bank also agree that the OWNER/PURCHASER at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and not withstanding any security or other guarantee that the OWNER/PURCHASER may have in relation to the Seller's liabilities.

Dated at _____ on this _____ day of _____2016.

_____

Signed and delivered by

_____

For & on Behalf of

Name of the Bank & Branch &
Its official Address

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2015/508/DMO dated 24.07.2016 issued by Finance Department or further instruction issued by Finance department time to time.

Section - 6

Performa of Contract-cum-Equipment
Performance Bank Guarantee
(To be stamped in accordance with Stamp Act)

Ref:

Bank Guarantee No.
Date:

To
Name & Address of the Purchaser/Indenter
_____

_____

Dear Sir,

In consideration of Name & Address of the Purchaser/Indenter, Government of Gujarat, Gandhinagar (hereinafter referred to as the OWNER/PURCHASER which expression shall unless repugnant to the context or meaning thereof include successors, administrators and assigns) having awarded to M/s …… having Principal Office at …… (Hereinafter referred to as the "SELLER" which expression shall unless repugnant to the context or meaning thereof include their respective successors, administrators, executors and assigns) the supply of _____by issue of Purchase Order No…… Dated …… issued by <<GoG Department>> for and on behalf of the OWNER/PURCHASER and the same having been accepted by the SELLER resulting into CONTRACT for supplies of materials/equipments as mentioned in the said purchase order and the SELLER having agreed to provide a Contract Performance and Warranty Guarantee for faithful performance of the aforementioned contract and warranty quality to the OWNER/PURCHASER, _____having Head Office at (hereinafter referred to as the 'Bank' which expressly shall, unless repugnant to the context or meaning thereof include successors, administrators, executors and assigns) do hereby guarantee to undertake to pay the sum of Rs._____(Rupees_____) to the OWNER/PURCHASER on demand at any time up to_____ without a reference to the SELLER. Any such demand made by the OWNER/PURCHASER on the Bank shall be conclusive and binding notwithstanding any difference between Tribunals, Arbitrator or any other authority.

The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that the guarantee herein contained shall continue to be enforceable till the OWNER/PURCHASER discharges this guarantee. OWNER/PURCHASER shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee from time to time to extend the time for performance by the SELLER of the aforementioned CONTRACT. The OWNER/ PURCHASER shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the SELLER, and to exercise the same at any time in any manner, and either to enforce to forebear to enforce any covenants contained or implied, in the aforementioned CONTRACT between the OWNER/PURCHASER and the SELLER or any other course of or remedy or security available to the OWNER/PURCHASER.

The Bank shall not be released of its obligations under these presents by any exercise by the OWNER/PURCHAER of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the OWNER/PURCHASER or any other indulgence shown by the OWNER/PURCHASER or by any other matter or things.

The Bank also agree that the OWNER/PUCHASER at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and not withstanding any security or other guarantee that the OWNER/PURCHASER may have in relation to the Seller's liabilities.

Notwithstanding anything contained herein above our liability under this Guarantee is restricted to Rs. _____ (Rupees _____) and it shall remain in force up to and including _____ and shall be extended from time to time for such period as may be desired by the SELLER on whose behalf this guarantee has been given.

Dated at _____ on this _____ day of _____YYYY.

_____
Signed and delivered by

_____

For & on Behalf of

Name of the Bank & Branch &
Its official Address

List of approved Banks

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2015/508/DMO dated 24.07.2016 issued by Finance Department or further instruction issued by Finance department time to time.

CONTRACT FORM

THIS AGREEMENT made the _____ day of _____, YYYY ____ Between _____ *(Name of purchaser)* of _____ *(Country of Purchaser)* hereinafter "the Purchaser" of the one part and _____ *(Name of Supplier)* of _____ *(City and Country of Supplier)* hereinafter called "the Supplier" of the other part :

WHEREAS the Purchaser is desirous that certain Goods and ancillary services viz., _____ *(Brief Description of Goods and Services)* and has accepted a bid by the Supplier for the supply of those goods and services in the sum of _____ *(Contract Price in Words and Figures)* hereinafter called "the Contract Price in Words and Figures" hereinafter called "the Contract Price."

NOW THIS AGREEMENT WITHNESSETH AS FOLLOWS:

1 In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2 The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

2.1 the Bid Form and the Price Schedule submitted by the Bidder;

2.2 terms and conditions of the bid

2.3 the Purchaser's Notification of Award

3 In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4 The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

5 Particulars of the goods and services which shall be supplied / provided by the Supplier are as enlisted in the enclosed annexure:

TOTAL VALUE:

DELIVERY SCHEDULE:

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the

Said _____ (For the Purchaser)

In the presence of _____

Signed, Sealed and Delivered by the

Said _____ (For the Supplier)

In the presence of _____

Annexure – Details of existing radios used by Gujarat Police:

1. VHF- MOTOROLA GM-338
2. UHF- STATIC KENWOOD TK-980
3. UHF- MOBILE H/H KENWOOD TK-480