

Draft Request for Proposal (RFP) for Selection of Agency to establish and operate Emergency Response Center (ERC) in Andhra Pradesh

Government of Andhra Pradesh intends to select an Agency to setup, commission and operationalize 108 emergency response services and 104 mobile medical services through an Emergency Response Center (ERC), with integrated technology, software, applications, networking, connectivity and manpower. In view of this, APMSIDC, on behalf of “Dr. YSR Aarogyasri Health Care Trust”, intends to select an Agency through this tender to establish and operate ERC in Andhra Pradesh.

As per Andhra Pradesh Infrastructure (Transparency through Judicial Preview) Act,2019 (Act No.34 of 2019), it is mandated that a judicial preview be conducted, prior to inviting tenders for all infrastructure projects, including those under the public-private partnership (PPP) category worth Rs 100 crore and above. The Judge is required to place the tender-related documents referred for a judicial preview in the public domain for a week and invite public suggestions. Within eight days of such publication, the tender document will be previewed. After a discussion with the government or the concerned local body and its examination, the judge may suggest such modifications as may be required, which will be binding on the government.

A copy of this RFP is now available at: <http://judicialpreview.ap.gov.in/syo.php>

All objections with regards to this RFP, can be shared through the form available at <http://judicialpreview.ap.gov.in/108.php#parentVerticalTab2>, or below mentioned e-mail ids by 05:00 PM, 31st October 2019.

- judge-jpp@ap.gov.in
- apjudicialpreview@gmail.com

It is to be further submitted, that **no pre-bid meeting** would be organized for this RFP.



**Request for Proposal
for
Selection of Agency to establish and operate
Emergency Response Center (ERC) in Andhra
Pradesh**

RFP NO.....

Dated.....

**Andhra Pradesh Medical Services & Infrastructure Development
Corporation (APMSIDC),
Department of Health, Medical & Family Welfare**

Disclaimer

Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC) on behalf of “Dr. YSR Aarogyasri Health Care Trust, Government of Andhra Pradesh” is procuring services related to Establishment, Operations and Maintenance of Emergency Response Center for catering to 108 emergency response services and 104 services.”

The information contained in this Request for Proposal (RFP) document, or subsequently provided to bidders, whether verbally or in documentary form, by or on behalf of Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC), or any of their employees or advisors, is provided to bidders on the terms and conditions set out in this RFP document and any other terms and conditions subject to which such information is provided.

This RFP document is not an agreement and is not an offer or invitation by APMSIDC, Department of Health, Medical & Family Welfare or its representatives to any other party. The purpose of this RFP document is to provide interested parties with information to assist the formulation of their Proposal. This RFP document does not purport to contain all the information each Applicant may require.

This RFP document may not be appropriate for all persons, and it is not possible for APMSIDC, their employees or advisors to consider the investment objectives, financial situation and particular needs of each entity/bidder who reads or uses this RFP document. Certain bidders may have a better knowledge of the proposed Project than others. Each applicant should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and obtain independent advice from appropriate sources. APMSIDC, its employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document.

APMSIDC may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP document.

List of Abbreviations

S. No.	Abbreviation	Description
1.	ACD	Automatic Call Distribution
2.	AHT	Average Handle Time
3.	AICTE	All India Council for Technical Education
4.	AIS	Accounting Information System
5.	AMC	Annual Maintenance Contract
6.	AP	Andhra Pradesh
7.	API	Application Program Interface
8.	APIIC	Andhra Pradesh Industrial Infrastructure Corporation
9.	APMSIDC	Andhra Pradesh Medical Services & Infrastructure Development Corporation Ltd
10.	APSDC	Andhra Pradesh State Data Center
11.	ASA	Average Speed to Answer
12.	AVLS	Automatic Vehicle Location
13.	AVLT	Automatic Vehicle Location and Tracking
14.	BCP	Business Continuity Planning
15.	BDS	Bid Data Sheet
16.	BG	Bank Guarantee
17.	BGP	Border Gateway Protocol
18.	BLC	Backlight Compensation
19.	BOM	Bill of Material
20.	BOQ	Bill of Quantities
21.	CAD	Computer Aided Design
22.	CAPEX	Capital Expenditure
23.	CHC	Community Health Care
24.	CO	Communication Officer
25.	COTS	Commercial Off-the-Shelf
26.	CRM	Call Record Management
27.	CTI	Computer Telephony Integration
28.	CV	Curriculum Vitae

S. No.	Abbreviation	Description
29.	DC	Data Center
30.	DO	Dispatch Officer
31.	DR	Disaster Recovery
32.	DVI	Digital Visual Interface
33.	DWDR	Digital Wide Dynamic Range
34.	EDID	Extended Display Identification Data
35.	EMC	Electromagnetic Compatibility
36.	EMD	Earnest Money Deposit
37.	EMS	Element Management System
38.	EMT	Emergency Medical Technician
39.	EPABX	Electronic Private Automatic Branch Exchange
40.	ERC	Emergency Response Centre
41.	ERCP	Emergency Response Center Physician
42.	ERS	Emergency Response Services
43.	ESI	Employee's State Insurance
44.	ESIC	Employee State Insurance Corporation
45.	FCC	Federal Communications Commission
46.	FRS	Functional Requirements Statement
47.	GCC	General Conditions of Contract
48.	GIS	Geographic Information System
49.	GoAP	Government of Andhra Pradesh
50.	GPS	Global Positioning System
51.	GST	Goods and Services Tax
52.	GUI	Graphical User Interface
53.	HDD	Hard Disk Drive
54.	HDMI	High-Definition Multimedia Interface
55.	HIV	Human Immunodeficiency Virus
56.	HLC	Highlight Compensation
57.	HRMS	Human Resources Management System
58.	ID	Identification

S. No.	Abbreviation	Description
59.	IEEE	Institute of Electrical and Electronics Engineers
60.	INR	Indian Rupee
61.	IO	Information Officer
62.	IP PBX	Private Bank Exchange
63.	IPR	Intellectual Property Rights
64.	IT	Information Technology
65.	ITB	Information to Bidders
66.	IVR	Interactive voice response
67.	LCD	Liquid Crystal Display
68.	LED	Light Emitting Diode
69.	LOA	Letter of Award
70.	MD	Managing Director
71.	MDI	Multiple Document Interface
72.	MDT	Mobile Data Terminal
73.	MERC	Mirror Emergency Response Center
74.	MMU	Mobile Medical Unit
75.	MPLS	Multi-Protocol Label Switching
76.	MSTP	Multiple Spanning Tree Protocol
77.	NMS	Network Management System
78.	NPA	Non-Performing Asset
79.	NSP	Network Service Provider
80.	OEM	Original Equipment Manufacturer
81.	OPEX	Operational Expenditure
82.	OSPF	Open Shortest Path First
83.	PBX	Private Branch Exchange
84.	PF	Provident Fund
85.	PHC	Primary Healthcare Center
86.	PIM	Protocol-Independent Multicast
87.	PRI	Primary Rate Interface
88.	PSTN	Public Switched Telephone Network

S. No.	Abbreviation	Description
89.	PSU	Public Sector Unit
90.	QCBS	Quality and Cost Based Selection
91.	QOS	Quality of service
92.	RFP	Request for Proposal
93.	ROC	Registrar of Companies
94.	RSTP	Rapid Spanning Tree Protocol
95.	SATA	Serial Advanced Technology Attachment
96.	SCC	Staff Selection Commission.
97.	SDC	Spares Disposition Code/Selected Device Clear/ Software Development Computer
98.	SDWAN	Software Defined Wide Area Network
99.	SERC	Secondary Emergency Response Center
100.	SLA	Service Level-Agreement
101.	SMF	Sealed Maintenance Free
102.	SMS	Short Message Service
103.	SOA	Service Oriented Architecture
104.	SOP	Standard Operating Procedure
105.	SRS	Software Requirements Specification
106.	SVGA	Super Video Graphics Array
107.	SXGA	Super Extended Graphics Array
108.	TCP	Total Contract Price
109.	TCP	Transmission Control Protocol
110.	TIA	Tender Inviting Authority
111.	UDLD	Unidirectional Link Detection
112.	UGC	University Grants Commission
113.	UHD	Ultra-high-definition
114.	UPS	Uninterruptible Power Supply
115.	VGA	Video Graphics Array
116.	VLAN	Virtual Local Area Network
117.	VoIP	Voice Over Internet Protocol or IP

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1. Introduction

Government of Andhra Pradesh (GoAP) is in the process of revamping its healthcare systems and service delivery models to improve quality and responsiveness. Towards this endeavor, GoAP plans to procure approximately 432 new ambulances for providing emergency services (108 Services) increasing the fleet size to 768 and 676 new Mobile Medical Units for 104 services.

108 vehicles will be positioned at 1 per mandal and 29 in urban agglomerations, as against the current distribution of 1 ambulance for 2 Mandals. It is expected that improving availability of vehicles in each of the Mandals and urban agglomerations will lead to improvements to overall emergency response time i.e. to reach the location of patient in urban areas within an average time of 15 minutes and in rural areas within an average time of 20 minutes.

In addition to procurement of vehicles, Government of Andhra Pradesh is planning to establish an Emergency Response Center (ERC) to operationalize 108 services. Further ERC will be leveraged to provide 104 services such as providing Medical information, Medical advice, Counselling to needy citizens and receiving grievances about various medical services, MMU services etc. It is envisaged to integrate data collected at MMUs with the ERC in future. It may be also used later to provide tele medicine services through Public health care facilities. ERC is expected to actively engage in receiving feedback from patients / beneficiaries of 108 and 104 services. This proposed ERC will be in the premises of APIIC building at Mangalagiri, Guntur District.

Government is intending to select an Agency to setup, commission and operationalize the 108 emergency response services and 104 services through the ERC.

The primary responsibilities of the agency are to,

- a. Implement technology architecture (Hardware, Software applications, connectivity and networking) and establish ERC operations.
- b. Recruit, train and deploy staff with suitable skills to perform ERC operations.
- c. Create and maintain positive engaging and motivating atmosphere in ERC.
- d. Define, document and adhere to the processes, SOPs right from Call landing, call transfer, dispatch, closing, follow-up and integrating with Service provider and Ambulance integrator.
- e. Install, maintain defined IT, communications, equipment and connectivity in Ambulances and MMUs and train field staff.
- f. Report on ERC operations, and monitor SLA compliance by the Ambulance integrator, MMU integrator and Service providers.
- g. Facilitate Government in providing speedy response to citizens in case of natural calamities / disasters.

1.1 Objective of current RFP

The primary objective of this RFP is to solicit bids from interested and eligible bidders for setting up the ERC for performing ERC operations leveraging cutting edge technology to address healthcare requirement across the State, through a competitive bidding process. This RFP intends to bring out all the details that may be needed by potential bidders to understand the scope of work, project implementation approach, commercial terms and bidding process details.

The bidders are expected to examine all instructions, forms, terms, project requirements and other information in the RFP documents. Failure to furnish all information required by the RFP

documents or submission of a bid not substantially responsive to the RFP documents in every respect will be at Agency's risk and may result in rejection of its Bid and forfeiture of Bid Security.

The APMSIDC shall be the final authority with respect to selection of a bidder through this RFP. APMSIDC reserves the right to reject any or all the bids without assigning any reason. APMSIDC further reserves the right to negotiate with the selected agency to enhance the value through this project and to create a more amicable environment for smooth execution of the project.

2. Bid Data Sheet

S. No	Information	Details
1.	Tender inviting authority	Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC), Government of Andhra Pradesh
2.	Name of RFP	Selection of Agency to establish and operate Emergency Response Center (ERC) in Andhra Pradesh
3.	RFP reference number	RFP No. _____
4.	Date and time of publishing of RFP on e-Procurement	
5.	Non-Refundable Tender Cost	Rs. 1,00,000
6.	Earnest Money Deposit	Rs. 1,00,00,000
7.	Last date and time for submission of queries for clarifications	
8.	Date, time and venue of pre-bid meeting	
9.	Release of response to clarifications for queries received	
10.	Last date, time (deadline) for receipt of proposals in response	

S. No	Information	Details
	to this RFP notice through e-procurement portal, GoAP	
11.	Date and time of submission of original copies of EMD (physical copy), tender document fee (physical copy)	
12.	Date and time of opening of Pre-qualification Bids on e-Procurement platform	
13.	Date and time of opening of Technical Bids on e-Procurement platform	
14.	Date and time and date of Technical Presentations by bidders	
15.	Date and time of Opening of Financial Bid on e-Procurement platform	
16.	Method of evaluation of bids	Quality and Cost based selection – 70:30 Technical qualification: Minimum marks – 70
17.	Timeline for setting up ERC and MERC	
18.	Total Contract period	7 Years
19.	Bid validity period	180 days

3. Procurement Process

3.1 Inviting Bids through e-Procurement Portal

1. APMSIDC invites online bids (Two bid system) through e-Procurement portal from eligible bidders for engaging an agency for providing ERC operations for Emergency Response services (108) and Mobile Medical Units (104) across the of Andhra Pradesh.
2. A complete set of bidding documents can be downloaded from <https://tender.apecurement.gov.in> as per the date and time provided in the bid data sheet. However, a scanned copy of the Demand Draft for INR 1,00,000/- drawn in favor of Managing Director, Andhra Pradesh Medical Services & Infrastructure Development Corporation, Government of AP payable at Vijayawada shall be uploaded towards cost of Tender Document along with the bid, failing which the bid will be disqualified.
3. Eligible Bidders must submit their bids for the complete scope of work. Any bid submitted for incomplete scope shall be rejected.
4. Issuance of Bidding Documents will not be construed to mean that such bidders are automatically considered qualified
5. All bids must be accompanied by Bid Security as given in the table below, failing which the bid will be rejected
6. All bids must be submitted on or before last date and time as mentioned in the bid data sheet, through e-Procurement portal only (online).
7. Bids will be opened on the date and time as mentioned in the bid data sheet in presence of the bidders or their representative, who choose to attend on the specified date and time at the Office of APMSIDC.
8. APMSIDC will not be responsible for any costs or expenses incurred by the bidders in connection with the preparation or delivery of bids.
9. APMSIDC reserves the right to reject bids without assigning any reason whatsoever.
10. In event of a date being declared as a closed holiday, the date for submissions of bids and opening of bids will be the following working day at the appointed time.

4. General References

- 1 Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC), on behalf of the Government of Andhra Pradesh, is hereafter referred to as “**Tender Inviting Authority**” or “**Authority**” in this document.
- 2 Dr. YSR. Aarogyasri Health Care Trust hereafter shall be referred to as “**Client**” in this document.
- 3 The Applicant who is providing response to this bid is hereafter referred as “**Bidder**” in this document.
- 4 The Bidder who is successful post evaluation of proposals according to terms and conditions of this RFP is hereafter referred to as “**Selected Bidder / Agency**” for implementation and maintenance of Emergency Response Center (ERC) and Secondary Emergency Response Center (SERC) for both 108 and 104 for delivering services related to monitoring, dispatch, inbound & outbound call management, health advisory assistance, etc.
- 5 Ambulance supplier, hereafter referred to as “**Ambulance Integrator**” shall be appointed by Client for providing fully equipped ambulances including their maintenance as per the “RFP number **3.1/APMSIDC/Equipment/2019-20**” dated **6th September 2019**
- 6 A vehicle supplier, hereafter referred to as “**MMU Integrator**” shall be appointed by the Client for providing fully equipped MMUs including their maintenance as per the “RFP number **3.2/APMSIDC/Equipment/2019-20**” dated **6th September 2019**
- 7 Service Provider(s), hereafter referred to as “**108 Service Provider**” shall be appointed by Client for providing emergency response healthcare services at field level
- 8 Service Provider(s), hereafter referred to as “**MMU Service Provider**” shall be appointed by Client for providing mobile medical services at field level
- 9 “**108 Service Provider**” and “**MMU Service Provider**” shall be hereafter referred as “**Service Provider**”

5. Scope of Work

The Scope of work is to establish an ERC (Emergency Response Center) and provide Integrated Technology, Software, Applications, Networking, Connectivity and Manpower necessary to carryout Emergency response Services and 104 Services through ERC. With the establishment of an integrated ERC, response times are expected to reduce substantially across the services right from taking the call, screening the call, dispatching, providing care on the scene and enroute and follow up.

The proposed ERC will be operated from the furnished premises with a 100-seater capacity which will be provided by the Client at APIIC, Mangalagiri, Guntur district to house Communication Officers, Dispatch Officers, Emergency Response Center Physicians (ERCP), follow-up, feedback collection, Supervisors, Quality Control, 104 information, advice / counselling, grievance collection staff etc. In addition, a Secondary ERC (SERC) with 15-seater capacity is required to be setup at Tirupati where the physical infrastructure will be provided by the client. The proposed SERC shall have a capacity to handle 20% volume of the calls that are received at the primary ERC.

5.1 Resources and Call volumes

The following number of officers shall be deployed in the ERC, SERC for emergency response services and 104 services per peak shift.

5.1.1 Call volumes

The below mentioned call volumes are indicative per peak load per day. The bidders shall account for future expansion of services and seats while sizing actual requirements of hardware, connectivity and applications of ERC and SERC.

Sl. No	Service	Inbound	Outbound	Outbound for Feedback
1	108 service	30,000	3,000	3,000
2	104 service	6,000	1,000	1,000

5.1.2 Resources for '108' Emergency response services

Emergency response services shall operate in three shifts each day on all seven days in a week. The following shifts along with the approximate load breakup for calls / dispatches are proposed as below:

- i. 8 am – 2 pm (30% to 35% of estimated calls in a day)
- ii. 2 pm – 8 pm (50% of estimated calls in a day)
- iii. 8 pm – 8 am (15% to 20% of estimated calls in a day)

Estimated Resource requirement for 108 services in each shift							
Shifts	Estimated percentage of calls in each shift	COs	DOs	ERCPS	Supervisor	Feedback	QC
8am -2pm	35%	28	12	4	4	4	4
2pm-8pm	50%	40	16	5	5	5	5
8pm-8am	15%	12	5	2	2		
Total		80	33	11	11	9	9

5.1.2.1 Resource requirement at SERC for 108 services per shift

S. No	Service Type	Distribution of Seats at SERC
1.	COs for Call taking	7
2.	DOs for dispatch	4
3.	Emergency Response Center Physicians (ERCP)	1
4.	Supervisors	1
5.	Feedback / Follow up (Outbound)	1
6.	Quality Auditors for Call taking, dispatching etc.	1
	Total Seating	15

The resources indicated for SERC will be deployed for all the three shifts.

The deployment of manpower for each of the shifts shall be suitably factored by the bidder including buffer for weekly offs, holidays, leaves, training etc.

5.1.3 Resource requirement for '104' services

The 104 services will operate in two shifts each day on all seven days in a week. The following shifts along with the approximate load breakup for calls are proposed as below:

- i. 8 am – 3 pm (40% to 45% of estimated calls in a day)
- ii. 3 pm – 10 pm (55% to 60% of estimated calls in a day)

Estimated Resource requirement for 104 services in each shift								
Shifts	Estimated Percentage of calls per shift	IOs	Medical Advisor	Medical counseling	Grievances	Supervisors	Feedback	QC
8am -3pm	40%	8	3	2	2	2	2	2
3pm-10pm	60%	12	4	2	2	2	2	2
Total		20	7	4	4	4	4	4

The deployment of manpower for each of the shifts shall be suitably factored by the bidder including buffer for weekly offs, holidays, leaves, training etc. Overall responsibilities of the selected Bidder / Agency

The selected bidder shall provide a complete solution duly considering the call volumes, staffing, technology components such as hardware, software, networking and connectivity requirements of both ERC and SERC including DC and DR.

The selected bidder shall deliver the solution including supply, design, customization, integration, installation, commissioning and rollout the of ERC and SERC for both 108 and 104 services. Further, the selected agency shall maintain, upgrade and manage the entire solution including operations and maintenance of the ERC and SERC for a period of Seven (7) years (inclusive of time taken till Go-Live).

The following are responsibilities of selected bidder in establishing and managing ERC and SERC.

S. No	Area	Responsibilities the bidder
1.	Project Plan	Project Plan with key milestones timelines
2.	Functional and Technical Documentation	Deliver all required documentation like FRS, SRS, Design documents, test cases etc. for the stack of applications to be deployed at ERC and SERC
3.	Call center License for ERC and SERC	Obtain the license for ERC and SERC (for Call Centre operations) for the Emergency response services in Andhra Pradesh, as per the norms
4.	PRI Lines for ERC and SERC	Providing adequate PRI lines at the ERC and SERC sites. The PRI lines shall be provided from two different service providers to maintain redundancy required at ERC and SERC. The PRI lines shall be separate for 108 and 104 services
5.	Development and Maintenance of Applications	Ensure development, testing, deployment and maintenance of the stack of applications required at the ERC and SERC as per approved project plan.
6.	Hardware at ERC and SERC	Supply, installation, configuration, testing, commissioning and maintenance of the infrastructure (hardware and software) such as IP phones, Desktops, Laptops, Videowall, Projectors, Printers, Storage etc. at ERC and SERC. The selected bidder is also responsible for end to end monitoring and maintenance of the hardware and other infrastructure provided by client.
7.	Hardware and connectivity at the Ambulances and MMU vehicles	Supply, installation, configuration, testing, commissioning and maintenance of the infrastructure (hardware and software) such as Mobile Data Terminals (MDT), Internet Connectivity, Cameras, Videowall, Projectors, Printers, Storage etc. at Ambulances and MMUs.

S. No	Area	Responsibilities the bidder
8.	Deployment of manpower at ERC and SERC	Ensure deployment of required manpower (Communication Officers (CO), Dispatch Officers (DO), Emergency Response Center Physicians (ERCP), Feedback, Information Officers, Medical counsellors, Medical advisors, Quality control etc.) for ERC and SERC as per the approved plan
9.	Connectivity between DC, DR, ERC and SERC	The selected bidder shall provide specified connectivity and maintain ERC, SERC, DC and DR in a crisscross manner.
10.	Backup and replication of applications and database	Ensure configuration, management and maintenance related to backup and replication of the applications at DC and DR.
11.	Network and Security Infrastructure	Supply, installation, configuration, testing and commissioning of network infrastructure like firewall (SDWAN), core switch, managed access switches etc. and Security infrastructure at ERC and SERC and the firewall (SDWAN) at DC and DR.
12.	Coordination with APSDC	Work with APSDC personnel in close coordination for setting up and maintenance of DC, DR for ERC and SERC site
13.	Power Backup	Setting up of appropriate power backup such as, UPS and DG set (including the supply of diesel) and any other components at ERC and SERC.
14.	IVR Application	Setting up of <u>IVR application</u> with Server (for 104 services and others as planned by the client), CTI Solution including ACD, Dialler, voice logger, disaster recovery solutions etc.
15.	Business intelligence and Analytics	Implement Analytics and Business Intelligence Tools for reporting and dashboards to the client.
16.	Training	Provide Training to all officials such as communication officers, dispatch officers, supervisors, ERCPs and other staff identified by the client.
17.	SLA Adherence	Provide end to end ERC and SERC services duly adhering to the SLAs

The Client will extend the following support with respect to the activities above

- a) The hardware infrastructure (i.e. servers) limited to hosting the applications required at the DC and DR will be provided as per the sizing and performance requirements at ERC and SERC.
- b) Ensure support from APSDC in all aspects related to managing the applications that are hosted on APSDC.

- c) Ensure support from the Ambulance integrators, MMU integrators and Service Providers for installation, configuration and testing of the components to be installed in the Ambulances and MMUs.

5.2 Process overview

5.2.1 Process overview of Emergency response services

The following process is to be followed in case of the Emergency response services

1. In case of distress, the citizen calls “108” for medical emergency.
2. The Communication Officer (CO) at ERC receives calls, collects basic details and performs preliminary assessment of the callers for actionability, before forwarding them to Dispatch Officer (DO). The CO workstations will have a feature to display digital map to locate current position of the caller and also have application to capture the caller details, distress information etc., which helps the CO to address the distress calls efficiently. Selection of right personnel as COs is crucial as they would be handling real time calls/connects about emergencies of various kinds. The vision is to create a motivating environment for staff that helps them to be self-driven and meet the desired objectives of the project. The CO will have the provision to transfer the details including voice and data through the Computer Telephony Integration (CTI) to the DO.
3. The DO’s user interface will have caller details, location of the caller and feature to locate the nearest available ambulance vehicle using GPS tracking device installed in the ambulance, shortest route and nearest hospital to the incident site and take further action in coordination with 108 service providers. The DO shall forward all the information collected to the assigned ambulance’s Mobile Data Terminals (MDT).
4. All Ambulances shall be fitted with AVL / GPS (AIS 140 standard) tracking device and MDT to receive necessary instructions from ERC. There shall be one MDT (IP65 complaint military grade) in the ambulance. The ambulances will update ERC with their real time location information on a constant basis, which in turn will be displayed at the workstations of the DO.
5. While ambulance is on the way to nearest hospital, EMT updates status of the patient. The Emergency Response Center Physician (ERCP) at ERC should have real-time visibility into patient vitals and initial assessment data based on information provided by EMT through MDT in ambulance. The ERCP will coordinate with EMT and Hospital and can provide instructions as required.
6. EMT will update the details on each incident on the MDT installed at the ambulance and close the incident once the ambulance reaches the hospital and hands over the patient. EMT may connect with ERC in case of any further assistance required on an incident. The Supervisors at ERC will check the closure report from the 108 service provider / EMT and close the case.
7. Status of all calls are to be updated in real time on the Supervisor’s screen in the ERC including assignment of resources. Using these inputs, the Supervisor will be able to effectively monitor operations of the ERC.
8. ERC is expected to actively engage in receiving feedback from the patients / beneficiaries for the service provided on the emergency incident. The feedback shall be solicited from the patients / beneficiaries post 48 hours of the incident. Feedback should capture overall

experience including reasons for the positive / negative feedback. The questions shall cover about EMT attending the incident, cleanliness of ambulance, equipment in ambulance etc.

Note: The time taken from CO taking the call to DO dispatching the ambulance should be completed within 3 minutes from the time of receiving the call at ERC.

Channels

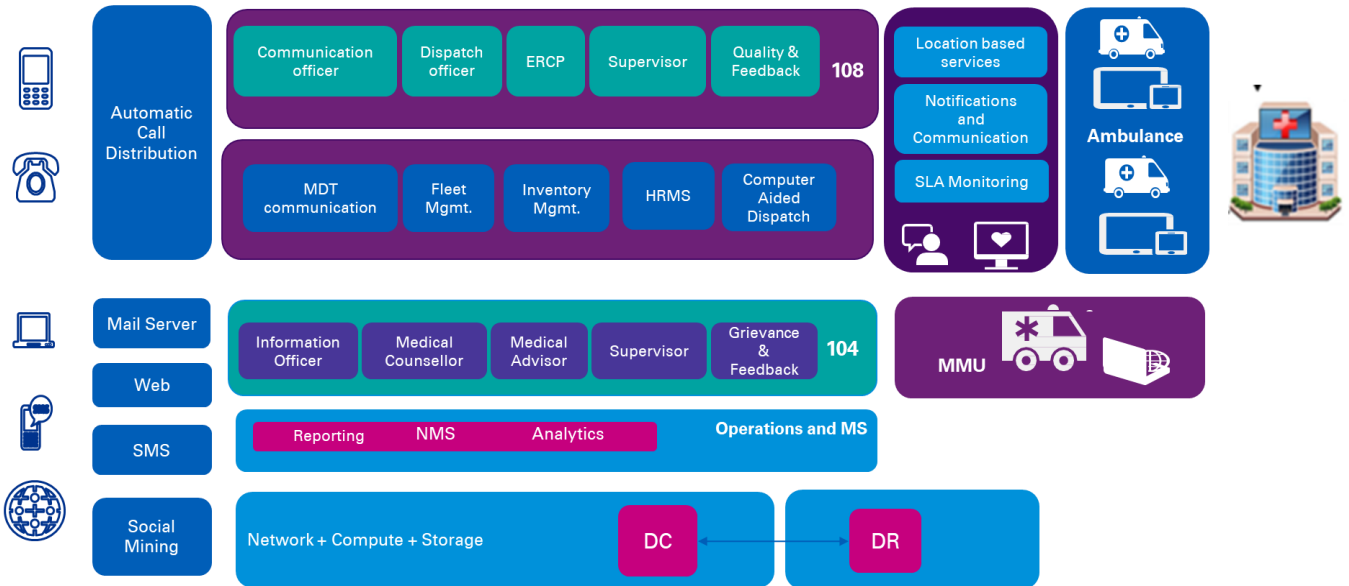


Figure 1: Logical representation of ERC Operations

5.3 Functional Requirements of ERC and SERC

The solution should meet all the current requirements of a modern Emergency Response Management system and should have an architecture that would be capable for integration with other existing and futuristic systems. At the same time, the system should be scalable enough to incorporate future expansions.

The following section provides the indicative functional requirements of the applications / software that are required at the ERC and SERC.

However, the bidders are expected to provide additional functionality indicating latest advancements and learnings from other statewide implementations in the area of Emergency response services.

5.3.1 Communication Officer

Call delivery primarily covers operational features of queuing, automatic call distribution system, call treatment rule, call type information etc. It shall have ability to convert call location from civic address to geographic coordinates (either manually or automatically) and a menu for location search with direction markers and advance search buttons.

- a. Inbound Calls: COs shall be responsible for receiving all incoming calls. They shall coordinate with the distressed caller to receive information about the emergency and respond according to defined SOPs.

CO should capture the call register, caller details, distress information, approximate time of occurrence of the incident and other services. CO shall classify the calls under the categories of actionable, non-actionable and other emergencies categories etc.

The Communication Officer then forwards the captured details with the screen and voice to the Dispatch Officer (DO).

- b. Call answering: System shall record the time when a Communication Officer has been given a call, record and identify the Communication Officer who was selected for the call through system generated unique ID. Overall call response system shall be enabled to provide human touch to the distressed person and no automated response system shall be provided for answering the call.
- c. Outbound Calls: Outbound COs shall call the distressed person / care taker to receive information about emergency incident and create a report. The outbound COs shall also be responsible for handling any unanswered calls and collecting and collating the Citizen experience post 48 hours after the resolution of emergencies.
- d. Location Map Display: COs desk shall have the facility to display the Caller Location on GIS map and Location based services. Maps shall be able to turn on and off specific layers of information, and be able to select specific layers on a GIS map display (e.g. district boundaries, ambulance locations, hospitals etc.)

The following are the solution features required to support the Communication Officer

#	Specification	Description
<i>Solution features to support the Communication Officer</i>		
1.	Caller Information Location and automatic display of information	<ul style="list-style-type: none"> a. Provision to display real time location of the mobile caller using the location based services b. Automatically display the nearest hospital, police station, blood bank etc.
2.	Call Classification, Prioritization	<ul style="list-style-type: none"> a. Classify the call into distress call, enquiry call, blank call, prank call etc. and assign priority to the calls received
3.	Call referencing	<ul style="list-style-type: none"> a. Cross reference the incident based on the caller location, number, time, incident etc.
4.	Multiple Calls & Incidents	<ul style="list-style-type: none"> a. Handle multiple calls and multiple incidents
5.	Call Recordings	<ul style="list-style-type: none"> a. Record and tag incident with below features: <ul style="list-style-type: none"> i. Date and time stamp of all calls ii. Caller Location, Incident type and other relevant data etc. iii. Playback entire incident end to end such that it is useful for trainings and other demonstrations.
6.	Caller History, Create Emergencies and Alarms	<ul style="list-style-type: none"> a. View caller's history b. Track repeat call c. Classify incident as an emergency and create alarms to all COs / DOs / Supervisors based on emergencies.

#	Specification	Description
<i>Solution features to support the Communication Officer</i>		
7.	Standard Operating Procedures (SOPs) and predefined scripts	<ul style="list-style-type: none"> a. Feature to create SOP for CO / DO / Supervisor. b. Configure pre-defined scripts for COs to capture details comprehensively
8.	Status Display & Search	<ul style="list-style-type: none"> a. Feature to display the status of all incidents such as dispatched, closed etc.
9.	Location Search Option	<ul style="list-style-type: none"> a. Feature to search various locations of an incident such as nearest Hospital, Police station, Blood bank etc.

5.3.2 Dispatch Officer

The Dispatch Officer (DO) shall use information provided by CO to dispatch ambulance and forward all information collected to respective ambulance.

#	Specification	Description
<i>Solution features to support the Dispatch Officer</i>		
1.	Information from CO	<ul style="list-style-type: none"> a. Allow seamless information flow including voice, data, location of caller, caller details, incident details etc. from CO to DO screen
2.	Dispatch of ambulance and communication with MDT	<ul style="list-style-type: none"> a. Automatically display nearest ambulances for dispatch to incident location. It should also indicate nearest Hospital and Police station. b. Represent allocated, un-allocated ambulances as per status available, enroute etc. c. Allow DO to indicate and communicate with MDT on shortest path and directions to reach incident location
3.	Caller History	<ul style="list-style-type: none"> a. View caller's history b. Track repeat calls a. Classify incident as an emergency and create alarms to all COs / DOs / Supervisors based on emergencies.
4.	Updates on an incident and guidance	<ul style="list-style-type: none"> a. Update on particular incident, including report from Ambulance b. Display real-time status of ambulance from dispatch to arrival at incident location and automatically update incident
5.	Call Recordings	<ul style="list-style-type: none"> a. Caller conversation should be recorded and tagged with concerned event. b. Playback history data
6.	SLA monitoring	<ul style="list-style-type: none"> a. Feature to setup SLA for each action and record each incident against pre-defined SLA

#	Specification	Description
<i>Solution features to support the Dispatch Officer</i>		
7.	Call back feature	a. Should be user-friendly with a Call back button on screen for DOs to reach back to caller as per details recorded
8.	Conference calling	a. Create a conference between select stakeholders such as ERCP, Supervisor, EMT, DO, Arogya mitra, doctors of PHC / CHC etc.

5.3.3 Computer Aided Dispatch (CAD)

CAD solution should be integrated with Telephony, GIS, AVLS and other components of the solution used by both CO and DO to perform transmission of information, ambulances and create case, dispatch coordination, take feedback and enable supervision.

#	Specification	Description
<i>Solution features of CAD</i>		
1.	Design & Architecture, Customization	a. Support complete ERC operations including call taking & dispatching, communications aspect etc. b. Solution should be based on SOA and should be scalable to accommodate future requirements
2.	Security and Interoperability	a. Should be secure and support all features relevant to ERC operations b. Flexible to assign multiple roles to users without having a need for additional licenses.
3.	Multi-channel support	a. Allow users to reach ERC through multiple channels including email, social media, instant messaging, through picture images from smart phones etc.
4.	GIS Map	a. Should be integrated with advanced GIS functionality such as Google maps to ensure end to end ERC operations.
5.	Automatic Vehicle Location System (AVLS) integration	a. Should be integrated with AVLS software to facilitate data communication link with vehicle mounted location tracking devices (GPS) with navigation facility for ambulances. b. Facility to poll information from each vehicle to transmit its current positional information. c. Provide facility to dynamically place ambulances on basis of hot-spots, historical data of incidents, time of incident etc.

#	Specification	Description
<i>Solution features of CAD</i>		
6.	Location based services	a. Solution should able to track the location of the caller automatically
7.	Message services integration	a. Should have message software that shall provide ability to send/receive messages in a centralized and distributed mode. b. Should be able to receive query/messages from AVLS / CAD client applications & distribute them to other AVLS client applications based on user configurable set of rules. c. Message solution should support centralized logging of relevant AVLS / CAD related message communications.
8.	Multi-monitor displays for users	a. Should support multi-monitor displays for different users. b. Each CO should have two monitors and each DO should have three monitors for viewing Application GUI & GIS map respectively
9.	Multiple Map Windows	a. Should have provision to open multiple map windows for easy decision-making.
10.	Floating Windows capability	a. Should have floating windows capability i.e. CO/DO should be able to shift/ position & resize window form as per requirement or similar operational functionality
11.	Messaging /SMS Interface	a. Should be able to send message between ERC officers using intranet
12.	Configurable, Template based messaging	a. Should be capable of sending SMS to caller and/or Mobile Response Teams in a pre-defined template. b. SMS can be triggered manually at discretion of user or automatically as per pre-defined procedure configured in system.
13.	User Friendliness	a. Application GUI should be user friendly for ease of operation and keeping in mind response time to attend to emergency. b. Should have comprehensive in-built Help file with user friendly search facility and/or tagging.
14.	Call Management for Duplicate Calls	a. Should alert CO / DO / Supervisor about possibility of a single incident – multiple call situation or a multiple incident – multiple call situation.

#	Specification	Description
Solution features of CAD		
15.	Video / CCTV Surveillance Interface	<ul style="list-style-type: none"> a. Integrate with video feeds available from MDT, CCTV camera and laptops fitted inside the ambulances / MMU vehicles. b. Should be able to see video of cameras installed and mapped on to GIS map.
16.	MDT / Smartphone Interface	<ul style="list-style-type: none"> a. Integration with Mobile Data Terminal / commercially available Smartphone which are provided in each ambulance.
17.	Multi-Agency Support	<ul style="list-style-type: none"> a. Capability to support multiple agencies like Police, Fire, Electricity, Irrigation, Agriculture, Rail, Highway etc. b. Provision to register contact number and resource available with various departments.
18.	Multi –Language	<ul style="list-style-type: none"> a. Support multi-languages. b. Should easily switch between Local Languages i.e. Telugu, Hindi and English.
19.	Emergency Number Setup	<ul style="list-style-type: none"> a. Provision to setup Emergency help line number in case of any emergency. b. To carve out a small team of CO / DO, through solutions, dedicated for handling calls received on such special emergency numbers. c. Provision to configure select CO / DO in software to handle such situations.
20.	IP-Phone communication	<ul style="list-style-type: none"> a. Audio communication between CO / DO IP-Phone to smart phones in Ambulances

5.3.4 MDT Application for Ambulance

Each ambulance will be fitted with a Mobile Device terminal through which EMT will engage with ERCP on the specific incident.

#	Specification	Description
Solution features of MDT for EMT		
1	Secure Access	<ul style="list-style-type: none"> a. Secure access for EMT with login facility
2	Information from ERC	<ul style="list-style-type: none"> a. Allow / receive seamless information flow including voice, data, location of caller, caller details, incident details, nearest hospital, police station, blood bank etc. captured by CO / DO from ERC

#	Specification	Description
Solution features of MDT for EMT		
3	Event Information	<ul style="list-style-type: none"> a. Provision for EMT to accept information sent by DO b. MDT should show number of actionable incidents c. Provision to view notification pop-up for new events d. Patient personal information, address, pickup point, drop point, phone, date, locality etc. should be available for further validation e. EMT should be able to update status based on action taken on assigned event i.e. ambulance start time, at-scene, departure from scene, arrival and handover at Hospital, event closure. f. EMT should be able to update health status of the patient in ambulance g. MDT should be able to capture and upload details such as Image / Audio / Video / instructions for viewing at the ERC. h. Call facility to ERC and patient / caretaker. i. Option to view ERCP advice. j. Provide option to view historical events
4	Patient Care Form	<ul style="list-style-type: none"> a. MDT should provide SOP applicable for each incident. b. EMT should be able to update initial assessment, pre-hospital care given, medicines given, vitals, action taken on ERCP advice, Consent Form etc.
5	Offline synchronization	<ul style="list-style-type: none"> a. Should have provision to capture the data and store locally in case the connectivity is not present. b. Should have a provision to update and synchronize the entire data once the connection is restored. c. The feature should be made available in all the equipment (Laptop, Biometric device, MDT) that are supplied by the successful bidder.

5.3.5 Supervisor

Status of all calls are to be updated in real time on supervisor's screen along with assignment of resources. Using these inputs, Supervisor should be able to effectively monitor operations of ERC, SERC.

#	Broad Specification	Description
<i>Solution features of Supervisor interface</i>		
1	Event monitoring	<ul style="list-style-type: none"> a. Facilitate supervision of operations. Should be able to examine each event and ensure appropriate action. b. Should have functionalities of both CO & DO, including overriding facility, if necessary.
2	Route creation & assignment of routes	<ul style="list-style-type: none"> a. Provision of tools for creation of digitized vehicle routes (daily, weekly etc.) and assign one or more vehicles to these pre-defined routes along with check points.
3	Feedback	<ul style="list-style-type: none"> a. Should be able to collect feedback from caller
4	Reports	<ul style="list-style-type: none"> a. Should have built-in reporting module with ability to create reports using various options like date wise, zone wise, event type, sub type etc.
5	System settings	<ul style="list-style-type: none"> a. Should be able to configure system: <ul style="list-style-type: none"> i. Allotment of Telephone Extension number ii. Screen Setting (Single, Dual & Triple), Map Path Setting, CC camera, Icon display on GIS Map etc.
6	Reassignment of event	<ul style="list-style-type: none"> a. Should be able to unlock assigned event in process and reassign to another DO / ambulance to take further action.
7	Group action	<ul style="list-style-type: none"> a. Should be able to configure / create response plan based on Incident type so as to direct multiple ambulances to a particular location.

5.3.6 Emergency Response Center Physician (ERCP)

ERCP at ERC and SERC should have real-time visibility into patient condition and initial assessment data based on information provided by EMT in ambulance through MDT app. ERCP will coordinate with EMT / Hospital and can provide instructions as required.

#	Broad Specification	Description
<i>Solution features for ERCP interface</i>		
1.	Initial Assessment & stabilization	<ul style="list-style-type: none"> a. Should have the relevant call details as captured by the CO, DO, other details captured in the MDT, photographs / video etc. for undertaking initial assessment.
2.	Call to Ambulance	<ul style="list-style-type: none"> b. Should be able to call and reach out to EMT in ambulance to provide necessary advice.

#	Broad Specification	Description
Solution features for ERCP interface		
		c. Should be able to view patient condition either through photographs or through live feed from MDT / CC camera
3.	Advice to EMT	a. Feature to suggest advice based on patient condition through text, audio modes.
4.	Call Conferencing	a. Call conferencing capability should be available. ERCP should remain connected with the ambulance EMTs through call handling process for clinical assistance.

5.3.7 GIS functionality

In order to perform above functions, bidder shall suitably integrate with GIS platforms such as Google maps to factor traffic data, geographical features, information on hospitals, health care facilities, police stations, fire stations, blood banks etc. to aid ERC, SERC and ambulances towards achieving desired response time. Further, GIS platform should be able to integrate and display ambulance status to assist DOs in properly locating and locking the vehicle as well as its continuous monitoring.

5.3.8 Fleet Management

Solution should capture total number of ambulances available at any point in time to help DOs to monitor status of ambulances in real time. ERC should be able to track ambulance, setup various vehicle management parameters to alert on preventive management, breakdowns and driver management etc. Further, functionality should allow designated managers of service providers, ambulance integrators and MMU integrators to manually input various data in relation to fleet management of their respective vehicles.

The SLAs related to Ambulance & MMU integrators and Service Providers which are required to be monitored by client are mentioned in the RFPs released by APMSIDC (Please refer General references section for details of RFPs). All these factors shall be taken into account while proposing fleet management functionality so as to properly track SLA compliance on a daily / weekly / monthly basis by the client.

#	Broad Specification	Description
Solution features of Fleet Management		
1	Monitoring	a. Support monitoring of all events, critical functionality such as vehicles fleet monitoring, reports, charts & analysis etc.
2	Live vehicle tracking	a. Support live vehicle tracking of ambulances with details.
3	Play back history	a. Should indicate vehicle history with details. b. Should be capable of showing vehicle idle time, ignition on / off plus alert etc.

#	Broad Specification	Description
<i>Solution features of Fleet Management</i>		
4	Geo-fencing	<ul style="list-style-type: none"> a. Should have Geo-fencing capability. b. Should facilitate allocating areas for ambulances. c. However, geo-fencing feature should not act as a restrictive measure for exceptional situations.
5	Reports	<ul style="list-style-type: none"> a. Should have in built reporting module. b. Should have ability to create various reports using various options like date wise, zone wise, event type, sub type etc.
6	Analysis	<ul style="list-style-type: none"> a. Should have an ability to create various GIS analysis reports. It should be possible to select data based on zones, events, event sub-type, priority & date and time etc.
7	Vehicle dashboard	<ul style="list-style-type: none"> a. Should have inbuilt dashboard to view performance and health check of ambulances through AVL

5.3.9 HRMIS

Solution should have necessary HR functionalities to take attendance of staff of ERC, SERC, and also track staff of both 108 and MMU Service providers. For this purpose, solution should appropriately interface / integrate with vehicle level biometric systems and generate necessary rosters.

5.3.10 SLA Tool

SLAs to be complied by the ERC, SERC are provided at section 9.16. The agency should generate SLA compliance reports through the system without any manual intervention. These reports should be available for further analysis through the analytics platform which is described at 5.4.11.

5.3.11 Analytics

Based on data being captured through the solution, the agency should generate various types of analysis and reports required for monitoring of emergency response services and 104 services. It is estimated that approximately 50 different types of reports are to be generated on a daily / weekly / monthly / quarterly / annual basis. Further analytics and reports should be generated based on historical data stored in the system. These reports should be provided online, as and when required by the client. All the reports generated should be customizable based on the client's requirements from time to time. Necessary dashboards should be made available with user access rights to access various levels of data.

5.3.12 Inventory Management

The solution should be able to track status of availability and consumption of drugs and consumables. It should be able to generate necessary alerts at ERC level for each ambulance, MMU and provide summary reports on a daily, weekly, monthly basis.

5.4 Process overview and solution requirements for 104 services

5.4.1 Process overview of '104' services

ERC will be leveraged to provide '104' services as well. Objective of '104' service is to provide one stop solution for on-call Medical Advice, Counselling, Information and Grievance handling. The solution should have capability to capture all diagnostics and treatment facilities including specialist doctors and any other forms of medical facilities etc. available in the state. The agency is required to create and continuously update the information from time to time.

The following process is to be followed in case of 104 services

1. Citizens call '104' for any medical information or advice
2. **Information Officer (IO)** at '104' service desk receives call to provide requisite information. The IO will have a feature to capture the caller details and other information relevant such as location, information requested etc.
 - a. In case the caller requires any standard information available with the IO, the IO provides the requisite information and closes the event.
 - b. In case the caller requires any advice or counselling, IO transfers calls to either **Medical Counsellors** or **Medical Advisors** depending on caller's requirement.
 - c. IO may transfer call to CO of '108' service in case of an emergency. The process of emergency response services will be followed in such scenarios.
 - d. IO transfers call to Grievance Officer in case of any grievance. These grievances may be related to MMU service, PHC treatments or any other health care delivery etc.
3. **Medical advisor** provides standard advice to the caller based on information captured by IO and further discussed with the caller using validated Medical triage solutions. Such advice could include drugs prescription, recommendation to visit health facilities / specialists for further advice.
4. **Medical counsellor** shall provide counselling to the callers depending upon their condition. This may include counselling services to adolescents, cancer patients or patients with suicidal tendencies etc.
5. **Grievance officer** shall receive and record all grievances reported by callers. These grievances may be related to services of MMUs, PHCs or any other health related services provided in the state. The Grievance officer shall compile all such grievances reported.
6. The call is closed once requisite service is provided by the ERC

5.4.2 Solution requirements of '104' services

Proposed roles of 104 services	Solution features to support the roles
Information Officer	<ul style="list-style-type: none"> a. Feature to display information on nearest Diagnostics, treatment facilities, specialist doctors and services etc. based on database available b. Should have facility to capture and retrieve schedules related to MMU, medical camps, schemes etc.
Medical Advisor	<ul style="list-style-type: none"> a. Should have necessary decision support system with standard framework for seeking information from caller and to provide standard advice b. Should provide a standard compendium of drugs and usage specifications c. Feature to send prescription to caller via standard Messaging / Instant Messaging
Medical Counsellor	<ul style="list-style-type: none"> a. Should be able to record entire counselling conversation.
Grievance Officer	<ul style="list-style-type: none"> a. Register complaints / grievances against health services provided by MMUs, PHCs or any other medical services provided in the State. b. Should have standardized SOP for grievance handling. c. Should be able to send recorded grievances via email to concerned stakeholders, Government authorities for resolution.

Suitable solution modules to perform above functions which are covered under ERC shall be extended to 104 services. Any additional modules should be suitably factored by the bidder.

5.4.3 MMU Services Management

Solution should have functionality to track schedules of MMUs, staff reporting on the MMUs including their attendance by integrating with biometric devices present in MMUs.

The broader specification of the solution is as below.

#	Broad Specification	Description
Solution features of MMU module		
1	Personnel and Attendance management	<ul style="list-style-type: none"> a. Provision to create roles under each MMU team b. Provision to capture attendance on all MMUs and indicate absentees as per schedule.
2	Schedule management	<ul style="list-style-type: none"> a. Provision to create and maintain schedules of all MMUs. b. Provision to capture trip details using GPS device installed in MMUs c. Provision to set reminders like appointments, schedules etc.

#	Broad Specification	Description
Solution features of MMU module		
3	Inventory and consumables	<ul style="list-style-type: none"> a. Provision to view available Medicines / Drugs List. b. Provision to track medicines, consumables & equipment. c. Provision to request for medicines, consumables & equipment for each MMU

5.5 Technology requirements

The technology solution provided to ERC and SERC, along with backend hardware deployed at APSDC shall be highly available considering the 24x7 operation of the Project..

The processes involved in receiving an emergency call and responding to an emergency involves various technical functions. At every step of the functional process, technology involvement is a must to ease and automate the process. Some of the key technical aspects are which are expected to be a part of the solution to the ERC are as follows. Anyother missing components shall be factored in by the bidder.

S No	Component	Description
1	PSTN	<ul style="list-style-type: none"> a. All 108 / 104 number calls from the state shall be routed through Telecom Service Provider's PRI lines to the ERC. PSTN routes incoming calls to ERC and time lag for this process should be almost negligible. b. PRI lines shall be procured for primary ERC and SERC c. PRI lines shall be leased from two or more service providers to provide redundancy d. Any additional PRI lines should be procured to address scalability requirements.
2	IP PBX	<ul style="list-style-type: none"> a. An IP PBX should support switching calls between PSTN and VoIP and vice versa on local lines while allowing integration with other systems and inclusion of more capabilities, such as chat platform integration. This would generally be configured to suit the functions such as Automatic line selection, Automatic Call distribution, Call monitoring, Call forwarding, disable call waiting, IVR, IP Telephony etc.

S No	Component	Description
3	Automatic Call Distribution (ACD)	a. ACD supports skill-base routing, multiple group support, priority handling and Queue status indicator. ACD shall be provided in 1:1 Hot Standby configuration. Even the call operators can receive missed call data etc. from ACD and identify the available call operator and then dial the outbound call and connect with the citizen
4	Computer Telephony Integration (CTI)	a. CTI middleware would be capable of integrating with Case Record Management / Front-end application to facilitate integration features. It shall send notifications and events on CO screen window for every call. It shall be provided in 1:1 Hot Standby configuration
5	Call Record Management (CRM)	a. Call Record Management comprises of various inputs fields like name, address, contact number, incident type, incident location, caller location etc. Pre-populated information from location detection Information about the caller and the incident would be recorded. It shall be used to track all the call records and useful for categorizing the cases in terms of crime, inquiry, priority etc.
6	Computer Aided Dispatch (CAD)	a. CAD system is designed to capture citizen needs while incorporating incident information inputs like name, address, contact number, incident type, incident location, caller location in a pre-defined format endeavouring to obtain Pre- populated information from location detection Information about the caller and the incident. It shall be used to track all the call records and shall be useful for categorizing the emergencies in terms of incident, priority etc. CAD shall be integrated with CRM application with enriched GIS where call operator would collect information related to incident from the distressed caller. Call operator shall further dispatch the incident information to dispatchers

S No	Component	Description
7	General	a. GIS coordinates of a distressed person shall be in the form of longitude / latitude and location of Ambulances would be displayed on the screen of the dispatch officer Information about emergency would be passed from CAD system to the identified MDT device installed at Ambulance by just a button click at the dispatchers' system

5.6 Application Architecture Requirements

The proposed application architecture shall play a key role

S. No.	Application Architecture Requirements Description
1.	Application architecture shall provide an application framework to run all business functionality efficiently using N-Tier SOA Architecture (Service Oriented Architecture)
2.	System would be capable of supporting a minimum of 30,000 calls a day and shall be scalable to handle more call volumes in the future
3.	System shall be modular in design, operations and implementation and must follow industry-recognized standard design methodologies. This shall give the flexibility to implement the whole system, or a part of it as required
4.	System shall provide interfaces and services to seamlessly integrate with devices installed in Ambulances, MMUs and any other external entities of ERC. This shall provide an ability for applications and computers from different sources to work seamlessly together on and across networks
5.	System shall use web services to implement service-oriented architecture. A major focus of web services is to make functional building blocks accessible over standard Internet protocols that are independent from platforms and programming languages.
6.	System shall be integrated with communication channels like e-mail, IVR, SMS gateways, social media interfaces etc.
7.	System shall provide browser-based as well as mobile based user interface supported by standard web browsers and shall not require installation of any specific client-side software
8.	In order to ensure good application performance and efficient usage of network bandwidth, the system shall utilize client-side scripting technologies effectively that shall reduce number of transactions with main server and thus reduce overall bandwidth requirements

S. No.	Application Architecture Requirements Description
9.	System shall host all Internet facing applications in a de-militarized zone
10.	Systems shall be neutral to technology-platforms
11.	System shall be business rules based to control access and automate business processes
12.	Centralized data shall be used at all places to assure data accuracy and simplify data management
13.	System shall adopt coding standards in all languages on all platforms that make debugging and maintenance easier
14.	Code providing input and output to user interface would be designed to support a wide range of interfaces
15.	<p>The architecture shall be designed to make solution robust, less diverse, scalable, highly available and lightweight to the extent possible. It would be responsible for providing modular and efficient component-based framework that would support the following features:</p> <ul style="list-style-type: none"> a. Web based graphical user interface (GUI) for all the business functionality which would comply with major web browsers like Internet Explorer, Chrome, Mozilla etc. b. Mobile App based access for all business functionality for Citizen and public users. c. Application shall support multi lingual interface. d. Application shall have fully implemented Single Sign on. e. Application shall be based on complete SOA architecture allowing access to any application, database directly without using any direct service request or API. f. Application shall provide consistent and timely intelligence for informed business decisions g. Application shall have no limitations in integrating with third party services, external agencies on same network using SOA, external agency applications hosted on different network using file exchange txt / xml / json etc.

5.7 Bill of Material (BOM)

To implement the solutions in accordance with the functional requirements specified in the section above, the bidder is required to provide the following indicative BoM as part of the project delivery. The bidders should exercise adequate care to analyze the requirements mentioned in the Scope of work of this RFP and suggest any modifications, additions or deletions to the BoM mentioned below. Any inclusions, modifications or deletions shall also be mentioned as per the 'Bid Form 10.15' clearly mentioning the requirement and justification towards the same

SI No	Equipment	Quantity	Component	Minimum Specification
Infrastructure at Data Center				
1.	Server for CAD Solution	2	Form Factor	1U or above
2.			Processor	Intel Xeon 64 bit or equivalent
3.			Processor Base Frequency	2.1 GHz or higher
4.			No. of cores per processor	Minimum 8 core or higher
5.			Processor Socket Support	Two Socket Server
6.			RAM	Minimum 64Gb
7.			Storage	3*900 Gb SAS or SSD Drives
8.			Network Interface	Minimum 4 x 1Gbps port per server
9.				FC HBA 8 Gig card
10.			Power Supply	Redundant and Hot-swappable
11.			Operating system	Licensed version of 64bit latest version Operating system
12.			Anti-Virus	To be provided
13.	Server for GIS Solution	2	Form Factor	1U or above
14.			Processor	Intel Xeon 64 bit or equivalent
15.			Processor Base Frequency	2.1 GHz or higher
16.			No. of cores per processor	Minimum 8 core or higher
17.			Processor Socket Support	Two Socket Server
18.			RAM	Minimum 128 Gb
19.			Storage	3X600 Gb SAS Drives
20.			Network Interface	Minimum 4 x 1Gbps port per server

SI No	Equipment	Quantity	Component	Minimum Specification
21.				FC HBA 8 Gig card
22.			Power Supply	Redundant and Hot-swappable
23.			Operating system	Licensed version of 64bit latest version Operating system
24.			Anti-Virus	To be provided
25.	Server for Location Based Services (LBS) and AVLS Solution Database	2	Form Factor	1U or above
26.			Processor	Intel Xeon 64 bit or equivalent
27.			Processor Base Frequency	2.1 GHz or higher
28.			No. of cores per processor	Minimum 8 core or higher
29.			Processor Socket Support	Two Socket Server
30.			RAM	Minimum 256Gb
31.			Storage	3*900 Gb SAS or SSD Drives
32.			Network Interface	Minimum 4 x 1Gbps port per server
33.				FC HBA 8 Gig card
34.			Power Supply	Redundant and Hot-swappable
35.			Operating system	Licensed version of 64-bit latest version Operating system
36.	Anti-Virus	To be provided		
37.	Server for Applications (Others- HRMS, Fleet Management, Analytics and SLA tools)	2	Form Factor	1U or above
38.			Processor	Intel Xeon 64 bit or equivalent
39.			Processor Base Frequency	2.1 GHz or higher
40.			No. of cores per processor	Minimum 8 core or higher
41.			Processor Socket Support	Two Socket Server
42.			RAM	Minimum 64Gb
43.			Storage	3*900 Gb SAS or SSD Drives
44.			Network Interface	Minimum 4 x 1Gbps port per server
45.				FC HBA 8 Gig card
46.			Power Supply	Redundant and Hot-swappable
47.	Operating system	Licensed version of 64-bit latest version Operating system		
48.	Anti-Virus	To be provided		
49.	Server for Database	2	Form Factor	1U or above
50.			Processor	Intel Xeon 64 bit or equivalent

SI No	Equipment	Quantity	Component	Minimum Specification
51.			Processor Base Frequency	2.1 GHz or higher
52.			No. of cores per processor	Minimum 8 core or higher
53.			Processor Socket Support	Two Socket Server
54.			RAM	Minimum 256 Gb
55.			Storage	3*900 Gb SAS or SSD Drives
56.			Network Interface	Minimum 4 x 1Gbps port per server
57.				FC HBA 8 Gig card
58.			Power Supply	Redundant and Hot-swappable
59.			Operating system	Licensed version of 64-bit latest version Operating system
60.			Anti-Virus	To be provided
61.			Form Factor	Rack-mountable / Blade
62.	Server for Application and Database replication	2	Processor	Latest series/ generation of 64bit x 86 / RISC / EPIC / CISC processor(s) with Minimum 8 core or higher 2.1 GHz or higher
63.			RAM	Minimum 64Gb Memory per physical server
64.			Internal Storage	3x900 Gb SAS / SATA (10krpm) hot swap disk
65.			Network interface	Dual Integrated Gigabit Ethernet ports (Minimum 2 Integrated Gigabit Ethernet ports)
66.			Power supply	Dual Redundant Power Supply
67.			RAID support	As per requirement / solution
68.			Operating System	Licensed version of 64-bit latest Operating system
69.			Form Factor	Rack mountable 1U or more
70.	Server for Staging & QA	2	Form Factor	1U or above
71.			Processor	Intel Xeon 64 bit or equivalent
72.			Processor Base Frequency	2.1 GHz or higher
73.			No. of cores per processor	Min 8 core or higher
74.			Processor Socket Support	Two Socket Server
75.			RAM	Minimum 128Gb
76.			Storage	4Tb SAS or SSD Drives
77.			Network Interface	Minimum 4 x 1Gbps port per server
78.				FC HBA 8 Gig card

SI No	Equipment	Quantity	Component	Minimum Specification
79.			Power Supply	Redundant and Hot-swappable
80.			Operating system	Licensed version of 64bit latest version Operating system
81.			Anti-Virus	To be provided
82.	IP EPABX System	1	IPPBX (Hardware & Software) shall be provided in high availability configuration.	
83.			The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.	
84.			Should be compatible with all telecom interfaces or Telecom Service providers	
85.			It should compatible with ISDN PRI, Analogy trunks, H.323 trunk, SIP trunk. It should also provide facility to integrate with GSM, Radio devices.	
86.			Communication System should support Analogy, Digital, IP,SIP(3rd party SIP phone), Wireless IP Phone	
87.			Support for ACD Call Centre with CTI and advance call routing	
88.			IP Telephone extensions should be expanded based on quantities of data switch ports available.	
89.			The IP PBX should be modular, expandable, embedded IP server-gateway/server based architecture, having Unix or Linux or equivalent operating system software based platform. The system shall have hot standby/Active-Active arrangement so that it should continue to operate in case of failure or maintenance of main processor or power supply or interfacing card or CPU etc. The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.	
90.			Conference bridge that can manage multiple calls (min 5) simultaneous conferees.	
91.			The system shall allow outbound calling from the IP Phones.	
92.			The system shall support local announcements and music on hold.	
93.			The system shall be able to provide interface to ISDN PRI	
94.			The system shall be able to provide following features like Basic Call Setup, Name and Number Support, Transit Counter, called or Calling or Busy or Connected Name and Number, Name Identification, Diversion (Call forwarding), Diversion (Call forwarding) with Reroute, Call transfer.	
95.			The system shall have inbuilt web-based software for administration and maintenance of the system	
96.			The software shall provide GUI based interface for configuration and management of the system.	
97.			The Software shall provide real-time information or alerts and reports regarding health status e.g. up or down status, performance & resource utilization statistics etc. of the system and its components	
98.			The system shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information about users who have login into the system	
99.			It shall be possible to schedule tasks. The tasks could be one or more operations that the user can specify to run at a predetermined date and time	
100.			It shall provide reports about station alarms, trunk analysis, processor occupancy, system capacity etc.	

SI No	Equipment	Quantity	Component	Minimum Specification
101.				The IP PBX system should provide complete inbuilt encryption capabilities or features without any external firewall, with the ability to encrypt all traffic (media and call control signalling) between IP phones, soft phones, call controllers and all other associated endpoints via a strong encryption algorithm like IPSec or SRTP etc.
102.				The system shall provide features viz. silence suppression, comfort noise and voice activity detection
103.				Should provide features including but not limited Call forward all, Call forward while busy, Call forward if no answer, Call hold, Call Drop and retrieve, Call Waiting and Retrieve (with configurable audible alerting), Call Join, Call status (state, duration, number), Conference for at least 5 parties, Missed call information on IP phone, Directory dial from phone, Hands-free, speakerphone, Last number redial, Malicious Call ID and Trace, Abbreviated Dial, Speed Dial etc.
104.				The system should have IP address and connected to the network
105.				The system must support log services for both Internal and External commands and configuration history for 30 days at least
106.				ACD (Hardware & Software) shall be provided in high availability configuration.
107.				ACD should be capable to identify Agents availability into the particular state call center and route the call to the identified call center. ACD should support selective call routing based on Agent capability. Eg. 112, 181 and 108
108.				The ACD system shall be able to handle call & IP Phone as per capacity defined in scope
109.				ACD functionality should be supported to propose Operating system
110.				System should support skill base routing, multiple group support, priority handling and Queue status indicator. It is desirable that calls to certain trunk groups or to certain dialed numbers be assigned a higher priority than other calls and that calls which overflow from another split be queued ahead of other calls
111.				System should support all call center Agents as per requirement on a server and can be scalable by 50% minimum of existing Agent
112.				The ACD should support help or assist on Agent's phone. Agent can use this functionality to request help from the split supervisor. This functionality automatically dials the split supervisor's extension and connects the Agent to the supervisor. Current call should go on hold as the Agent use this functionality.
113.				The system should support call overflow routing e.g. if there is a queue in particular ACD group and another group is sitting idle, system should be able to transfer the calls to another group based on the settings defined by the administrator.
114.				The proposed system must support the concept of virtual seating. Agents can log-on from any "soft phone" instrument within the system. Agents on the proposed system will be logically defined, rather than requiring a "soft phone" extension and termination. Each Agent on the system must have an individually assigned log- on identification number which permits individual statistics to be collected by the ACD management information system
115.				Automatic call distributor device should have capability to distribute the calls based on Skill level of the Agent like efficiency of the Agent and work load

SI No	Equipment	Quantity	Component	Minimum Specification
116.				Automatic call distributor device should have capability to distribute the calls based on Skill level of the Agent like efficiency of the Agent and work load
117.				Automatic call distributor device should have some functionality where Supervisor can observe the Agent pattern or silently monitor the Agent.
118.				Automatic call distributor device should have functionality to provide best service to the caller like listen only, listen and talk only etc.
119.				Automatic call distributor device should have local treatment for IP & ISDN
120.				Automatic call distributor device should allow to compare specified skills, identify the skill that will provide the best service to a call, and deliver the call to that resource. If no Agents are currently available in that skill, the call is queued. To respond to changing conditions and operate more efficiently.
121.				Automatic call distributor device should have expected Time for waiting in routing and
122.				Automatic call distributor device should have Call Center Location Preference Distribution.
123.				Automatic call distributor device should have Call Center Support for Locally Sourced Music and Announcements for calls that have been put on wait.
124.				Automatic call distributor device should have an integrated call center functionality for IP or non-IP Agents.
125.				Automatic call distributor device should support load balancing of all calls.
126.				Automatic call distributor device should support for multiple announcements be played to a caller.
127.				Automatic call distributor device should be able to track remote activity. The tracking for off-premises Agents must be the same as that for on-premises Agents.
128.				Automatic call distributor device should support to provide Agent to be seen in a real-time view on a supervisor's workstation & Agent's activity should also show up on standard report.
129.				Automatic call distributor device should provide the capability to the supervisors for logout Agents from their own voice terminal without having to go to the Agent's desk & it could be possible from a remote location.
130.				The proposed system should support all states call center environment with multiple distinct sites as a single virtual call center operation. It should also have a capability to allocated call between sites based upon Agent skills, Agent availability, queue times, and other criteria.
131.				Automatic call distributor device should support automated load-balancing capabilities and customized conditional routing capabilities. Proposed system should allow the comparisons to be made in queue conditions before routing calls so that split or skills are not overloaded or it can be made in queue conditions after routing calls to determine if calls should be re-routed to alternate destinations.
132.				Automatic call distributor device should be able to collect request information, such as a zip code or account code, before the call is sent to an Agent and then route the call based upon that information. The system must have the ability to prompt a caller for information in terms of digit.

SI No	Equipment	Quantity	Component	Minimum Specification
133.				All calls for each ACD group (Skilled or Hunt) must be redirected to a different extension after hours. Supervisors must be able to activate this from their voice terminal. Each group may have different hours of operation.
134.				Automatic call distributor device should provide alternate routing automatically based upon time of day and day of week
135.				Automatic call distributor device should use the estimated wait time or average speed of answer to make routing decisions.
136.				The routing commands of the Automatic call distributor device should obtain information from another source like TSP interface or a database before routing the call
137.				Both Agents and supervisors should be notified via the telephone indicators when thresholds are reached for individuals and groups.
138.				Automatic call distributor device should have a capability for Agents to record personalized greetings that can be played to the caller prior to connection to the Agent.
139.				Automatic call distributor device should have a capability for Agents to record personalized greetings that can be played to the caller prior to connection to the Agent.
140.				Calls can be queue to an individual Agent. Agent should be notified and a delay announcement be provided if the call queues for an individual Agent who is on another call.
141.				Automatic call distributor device should support to force the Agents to be put into an ACW (After call work) state for a predefined period of time in order to provide rest time between calls, pace calls to the Agents, or limit the amount of time an Agent spends in completing wrap-up work
142.				Automatic call distributor device should be capable to define certain Agents as "reserve" Agents for certain skill sets which shall be able to handle call if configured incoming call threshold is exceeded
143.				ACD should be able to block nuisance callers against list of numbers captured in master database until either numbers is removed from the master database of nuisance callers.
144.				In case of non-emergency, ACD System should allow auto transfer of calls to voice based feedback application which shall captures user's feedback on multiple questions using DTMF inputs
145.				When interflowing calls between sites, automatic call distributor device should take advantage of Network Call Transfer and Deflection provided by the public switch telephone network to redirect an incoming ISDN call without requiring trunks to be tied up at the original destination after the call rerouting takes place.
146.				Automatic call distributor device should allow to change or add or remove Agent skill dynamically while Agents are on calls.
147.				Call should be routed to IP Phone and call related signal should be exchanged with the PC attached to the respective Agent
148.				ACD or CTI should provide interface to signal call release, call hold, requests from call taker Agents
149.				ACD system shall allow a call facility for Agent. If a call taker enters clerical mode that will be signalled to ACD call will not be routed to that Agent until it becomes free.

SI No	Equipment	Quantity	Component	Minimum Specification
150.				The CTI shall be capable of integrating with other application like CRM as per requirement.
151.				The OS hosting the core CTI functionality shall be a flavour of UNIX or LINUX or Windows or any other supporting OS
152.				The CTI platform shall be able to provide the caller's CLI (Caller Identification) information. It should populate the telephony controls within Agents Desktop / CAD application with CLI and other telephony event information
153.				The CTI link shall be able to pass events and information of states and changes in Agent states as well as incoming calls to the computer applications, e.g.:- If the customer calls from the same no. from which caller had called earlier (registered Or unregistered), the CTI platform shall be able to automatically fetch and display at least last 5 service requests details for that customer.
154.				The CTI shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information users who have logged-in into the system and the specific commands entered by them.
155.	SAN Storage 500 TB	1	Storage	Purpose built all flash Unified storage system shall support Both Block and File Protocols. It must have dual redundant controllers in active-active mode with automatic fail over to each other in case of failure.
156.			Processor	Offered Storage System solution shall be configured with total of Single OR Dual active Hexa-Core processors in high availability mode. File services should not require any extra hardware and must be built in the processor.
157.			Memory / Cache per Array	Array should be supplied with at least 48 GB Cache which should be flexibly usable for Read and write operations. All writes must be Secondarized across controllers. In the event of unplanned power failure, data in the cache should be safely de-staged to the disks to protect data from loss
158.			Capacity	Minimum 500TB Usable capacity.
159.			Hard Drives	Shall be supplied with suitable NI-SAS or SAS
160.			Backend Connectivity	The Storage array shall have end to end 12 Gbps SAS architecture for Backend and Disk connectivity. The array should be supplied with 4 x 4 lane 12Gb/s SAS ports across storage controllers for back-end connectivity.
161.			Storage Scalability	Storage subsystem shall be scalable to 100% or more of proposed capacity.
162.			Ports	The array should be supplied with 8 X 16G FC ports and 8 X 10G Ethernet Ports across controllers, Ethernet ports shall support both Block (iSCSI) and File (NFS, CIFS) protocols simultaneously.

SI No	Equipment	Quantity	Component	Minimum Specification
163.			Protocols	The array should support block protocols like FC, iSCSI and File protocols like CIFS, NFS and SMB.
164.			Fault Tolerance	Should support RAID 0/1, 5, 6
165.			Hot Spares	Array should be supplied with one global hot spare disk for every 30 disks of same capacity and speed.
166.			Network Client Types Support	The storage array should support connectivity to current version of all OS Platforms.
167.			Features	<p>1. The Storage array must provide end-to-end data protection using industry standard mechanism such as parity checking, checksum and background disk scrubbing etc.</p> <p>2. The Storage array must provide multiple levels of access control including role-based security and auditing capability.</p> <p>3. The storage system should support non-disruptive field replacement capabilities for components like Disk Drives, Disk connections, power supplies, controllers etc.</p> <p>4. The Storage array should support continuous system monitoring, call-home notification, advanced remote diagnostics and proactive hot sparing to enhance system robustness, availability and reliability.</p> <p>5. Storage should support Integration with third-party anti-virus software . it should support quota management. License if any for listed features should be configured for entire supported capacity of the array</p>
168.			Manageability	The storage should be configured with easy to manage, simple integrated user interface for distributed storage environments. A single sign-on centralized console should have dashboards for at-a-glance management and reporting and other functions like configuration monitor and manage. Performance monitoring should be provided to analyze the performance data
169.			Data replication	The Storage array must support capability to replicate data to remote site array in synchronous and asynchronous modes This license should be configured for entire supported capacity of the array. License should be provided for entire capacity
170.			Thin Provisioning	The storage array must be configured with required licenses to enable thin provisioning to allow physical allocation of just the storage that is needed or over provisioning of capacity. This license should be configured for entire supported capacity of the array

SI No	Equipment	Quantity	Component	Minimum Specification
171.			Snapshots	Storage shall be configured with required feature license to snapshot and restore file and block data. The. This license should be configured for entire supported capacity of the array
172.			Operating System	The storage array should support connectivity to current version of various OS Platforms.
173.			Snapshots	Storage shall be configured with required feature license to snapshot and restore file and block data. The license should be configured for entire supported capacity of the array
174.			Availability	Offered storage should support 99.999 availability
175.			Quality of Service	The Storage should have the capability to provide Quality of Service (QoS) for the LUNs/volumes configured in the system to ascertain desired performance level for applications
176.			Redundancy	Storage array shall be configured in No-Single-Point-of-Failure configuration with redundant components and offer Five 9's of availability.
177.			Scalability	Array should be scalable up to minimum 125 Disk drive slots
178.			Rack mount	Should be rack mounted.
179.			FC SAN Switch	2
180.	Required scalability shall not be achieved by cascading the number of switches and shall be offered within the common chassis only			
181.	Should deliver 16 Gbit/Sec Non-blocking architecture with 1:1 performance for up to 48 ports in a energy-efficient fashion			
182.	Should protect existing device investments with auto-sensing 4, 8, and 16 Gbit/sec capabilities.			
183.	The switch shall support different port types such as FL Port, F Port, E_ Port, EX_ Port.			
184.	The switch should be rack mountable			
185.	Should provide enterprise-class availability features such as redundant and hot pluggable components like power supply and FAN			
186.	The switch shall provide Aggregate bandwidth of 768 Gbit/sec end to end.			
187.	Switch shall have support for web-based management and should also support CLI.			
188.				

SI No	Equipment	Quantity	Component	Minimum Specification	
189.				Offered SAN switches shall be highly efficient in power consumption. Bidder shall ensure that each offered SAN switch shall consume less than 120 Watt of power.	
190.				Switch shall support POST and online/offline diagnostics, including RAS trace logging, environmental monitoring, non-disruptive daemon restart, FC ping and Path info (FC traceroute), port mirroring (SPAN port).	
191.				Intelligent Networking	Offered SAN switch shall support services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QOS zones to expedite high-priority traffic
192.					The switch shall be able to support ISL trunk up to 128 Gbit/sec between a pair of switches for optimal bandwidth utilization and load balancing.
193.					SAN switch shall support to restrict data flow from less critical hosts at preset bandwidths.
194.					It should be possible to isolate the high bandwidth data flows traffic to specific ISLs by using simple zoning
195.					The Switch should be configured with the Zoning and shall support ISL Trunking features when cascading more than 2 numbers of SAN switches into a single fabric.
196.				Offered SAN switches shall support to measure the top bandwidth-consuming traffic in real time for a specific port or a fabric which should detail the physical or virtual device.	
197.	Network Load balancer	1	Server Load Balancing Mechanism	<ul style="list-style-type: none"> • Cyclic, Hash, Least numbers of users • Weighted Cyclic, Least Amount of Traffic • NT Algorithm / Private Algorithm / Customizable Algorithm / Response Time 	
198.			Redundancy Features	<ul style="list-style-type: none"> • Supports Active-Active and Active-Standby Redundancy • Segmentation / Virtualization support along with resource allocation per segment, dedicated access control for each segment 	
199.			Routing Features	<ul style="list-style-type: none"> • Routing protocols RIPv1 / RIPv2 / OSPF • Static Routing policy support 	
200.			Server Load Balancing Features	<ul style="list-style-type: none"> • Server and Client process coexist • UDP Stateless • Service Failover • Backup/Overflow • Direct Server Return 	

SI No	Equipment	Quantity	Component	Minimum Specification
				<ul style="list-style-type: none"> • Client NAT • Port Multiplexing-Virtual Ports to Real Ports Mapping • DNS Load Balancing
201.			Load Balancing Applications	<ul style="list-style-type: none"> • Application/ Web Server, MMS, RTSP, Streaming Media • DNS, FTP- ACTIVE & PASSIVE, REXEC, RSH, • LDAP, RADIUS <ul style="list-style-type: none"> ○ Content Intelligent SLB ○ HTTP Header Super Farm ○ URL-Based SLB ○ Browser Type Farm • Support for Global Server Load Balancing • Global Server Load Balancing Algorithms • HTTP, HTTP Redirection, • DNS Redirection, RTSP Redirection • DNS Fallback Redirection, HTTP Layer 7 Redirection
202.			SLB should support below Management options	<ul style="list-style-type: none"> • Secure Web Based Management • SSH • TELNET • SNMP v1, 2, 3 Based GUI • Command Line
203.			Others	<ul style="list-style-type: none"> • Shall support minimum four (4) virtual instances and shall be scalable to 16 instances on the same appliance. • Shall have minimum of 14 Gbps of system throughput per virtual instance to support multiple load balancing and security functions • Shall have minimum of 8x10G SFP+ interfaces from day one. • Shall have security features like reverse-proxy firewall, sync-flood and denial of service attack protection from day one
204.	24 Port core Switch	2	Ports	<ul style="list-style-type: none"> • 24 10/100/1000 Base-TX Ethernet ports/FX and extra 2 numbers of Base-SX/LX ports • FX/TX Splits for a switch as per location requirement • All ports can auto-negotiate between 10Mbps/ 100Mbps/ 1000Mbps, half-duplex or full duplex and flow control for half-duplex ports.
205.			Switch type	Layer 3

SI No	Equipment	Quantity	Component	Minimum Specification
206.			MAC	Support 8K or 16K MAC address. (as per solution offered)
207.			Backplane	56 Gbps or more Switching fabric capacity for 24 ports.
208.			Forwarding rate	Packet Forwarding Rate should be 70.0 Mbps or better
209.			Port Features	Must support Port Mirroring, Port Trunking and 802.3ad LACP Link Aggregation port trunks
210.			Flow Control	Support IEEE 802.3x flow control for full-duplex mode ports.
211.			Protocols	<ul style="list-style-type: none"> Support 802.1D, 802.1S, 802.1w, Rate limiting Support 802.1X Security standards Support 802.1Q VLAN encapsulation, IGMP v1, v2 and v3 snooping 802.1p Priority Queues, port mirroring, Diff serv Support based on 802.1p priority bits with at least 8 queues DHCP support & DHCP snooping/relay/optional 82/ server support Shaped Round Robin (SRR) or WRR scheduling support. Support for IPV6 ready features with dual stack Support up to 255 VLANs and up to 4K VLAN IDs Support IGMP Snooping, IGMP Querying and Multicasting Should support Loop protection and Loop detection Should support Ring protection (when used in aggregation location)
212.			Access Control	<ul style="list-style-type: none"> Support port security Support 802.1x (Port based network access control). Support for MAC filtering. Should support TACACS+ and RADIUS authentication
213.			VLAN	<ul style="list-style-type: none"> Support 802.1Q Tagged VLAN and port based VLANs and Private VLAN The switch must support dynamic VLAN Registration or equivalent Dynamic Trunking protocol or equivalent
214.			Protocol and Traffic	<ul style="list-style-type: none"> Network Time Protocol or equivalent Simple Network Time Protocol support Switch should support traffic segmentation Traffic classification should be based on user-definable application types: TOS, DSCP, Port based, TCP/UDP port number

SI No	Equipment	Quantity	Component	Minimum Specification
215.			Management	<ul style="list-style-type: none"> Switch needs to have RS-232/USB console port for management via a console terminal/PC Must have support SNMP v1,v2 and v3 Should support 4 groups of RMON Should have accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface
216.	48 port Access Switch	2	Switch with following port density: a) 48x10/100/1000 Base-T b) Additional 4x10G SFP+ ports. Populated with 1 No. of 10G SFP+ Module on Day1 c)Should be equipped with internal RPS	
217.			Should support Virtual Switching System (VSS) / equivalent technology for higher availability of Layer 2 and Layer 3 including video applications Vendors should offer required cables/modules from day-1	
218.			The Virtual Switching System (VSS) / equivalent technology shall support virtualization of switch locally or over geographically diversified locations	
219.			Layer 2/3 Features: Should support 4K VLAN id's and 4K active VLAN,s, RSTP, MSTP, IGMP v1/v2,v3, IGMP/ MLD proxy,	
220.			Layer 3 Features: Should support Static routing, RIP, RIPng, OSPF, OSPFv3, PIM v4 SM, DM and SSM, PIMv6-SM based on network requirements	
221.			Standards: IEEE 802.3ac, IEEE 802.3az, IEEE 802.1v, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1D,VRRPv3, PVST+ compatibility mode, IEEE 802.3az, Open Flow 1.3 protocol capability to enable software-defined networking	
222.			IEEE 802.3z Energy Efficient Ethernet(EEE)	
223.			The Switch must support IEEE 802.17 or equivalent Ring resiliency / Ring protection technology for Sub 50Ms convergence time	
224.			Security: Should support ACLs, DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI), MAC address filtering and MAC address lock-down, Tri-authentication: MAC-based, web-based and IEEE 802.1x, DHCPv4 (server, relay and client)	
225.			Management : CLI, GUI, USB interface for taking backup of software release files configurations, DDM – Optical digital diagnostic monitoring as per SFF – 8472 or equivalent standards, TDR, Net flow/sflow or equivalent, IPv6 Logo Ready from Day-1	
226.			Should support Unidirectional Link Detection (UDLD) or equivalent to detect unidirectional links caused by incorrect fibre optic wiring or port faults and disable on fibre optics interfaces	
227.	The switch should support in built Layer 1 monitoring capability for end to end security monitoring to avoid any eve drops or security breach on the Fiber uplink links.			

SI No	Equipment	Quantity	Component	Minimum Specification
228.				Should seamlessly integrate with core switch
229.				For ease of integration all switches, SFP's, AP's should of same OEM
230.	Firewall with IPS	2	General requirements	Hardware based device for network protection with firewall, Antivirus, Anti Spyware, Anti-spam, Content Filtering & Intrusion Detection System (IDS) capabilities with 1 year hardware warranty & all security features support. Need to quote separately for subsequent years as required in this RFP.
231.				The device should be capable of being managed from a central location for configuration for, reporting and updates.
232.				The bidder should supply required capacity of HDD for storage
233.				Should provide an Http, Https, SSH, SNMP based management console for managing and configuring various components of the appliance
234.				The system shall provide firewall, VPN, SSL VPN, anti-spyware & anti-Worm functionality
235.				The system shall provide firewall, VPN, SSL VPN, anti-spyware & anti-Worm functionality
236.				Licensing should support unlimited users & devices based
237.				The communication between all the UTM System and GUI / Web UI Console should be encrypted with SSL or PKI
238.				Be easily backup or restored via GUI and CLI to/from local PC, remote centralized management or USB disk
239.				Be easily backup or restored via GUI and CLI to/from local PC, remote centralized management or USB disk
240.				The system shall support profile base login account administration, offering gradual access control such as only to Policy Configuration & Log Data Access etc.
241.				The proposed solution should support session time out & idle time out facility to forcefully logout the users.
242.				The proposed solution should support ACL based user creation for administration purpose.
243.			Firewall Component	Stateful and deep packet inspection firewall.
244.				Should prevent DoS& flooding attacks etc.
245.				Multiple Zones security with separate rules for each zone.
246.				Rules based on combination of Source and destination IP address / Zone and protocol

SI No	Equipment	Quantity	Component	Minimum Specification	
247.				Support NAT, H.323 & SIP NAT Traversal.	
248.				Firewall should allow the multicast traffic to pass through the firewall system.	
249.				The firewall should be supplied with the support for RIP v2 and OSPF.	
250.				Firewall should support voice-based protocols like H.323, SIP etc.	
251.				The firewall should have to provide QoS services to ensure guaranteed bandwidth for mission critical traffic/ application.	
252.				Should support application control.	
253.				Should support traffic shaping.	
254.				It should be possible to operate the firewall in a “bridging” or “routing and NATing mode”.	
255.				The Firewall should support authentication protocols like AD, LDAP and should support local data base.	
256.				The proposed solution should support user/IP functionality to map username with IP address / for security reason.	
257.				Should support Inspection of HTTP proxy traffic and etc.	
258.				The proposed solution should be ICSA certified or any other equivalent certification and should compliance with FCC, CE/UL etc.	
259.				The proposed solution should support VPN failover for redundancy purpose where more than one connection are in group & if one connection goes down it automatically switch over to another connection for zero downtime.	
260.				The proposed solution must provide on SSL-VPN client solutions	
261.				Antivirus Component	Antivirus scanner should be able to scan POP3, SMTP, FTP, HTTP traffic including compressed packets.
262.					Detects and removes viruses, worms, spyware and Trojans
263.			Should provide ability to allow, block and intercept file based upon extension for HTTP.		
264.			Should be capable scanning Encrypted VPN tunnel traffic originating from the unit for malware.		
265.			The Antivirus capability shall minimally attain Internet Computer Security Association (ICSA) AV Certification or equivalent.		
266.			AV Signatures can be updated in 2 different ways: manually, or via automatic pull technology.		

SI No	Equipment	Quantity	Component	Minimum Specification
267.				The proposed Integrated Anti-Virus should have at least one Certification as part of a UTM (NSS, Web coast Checkmark, ICASA or equivalent)
268.				The proposed solution should scan http/https, FTP, SMTP, POP3 etc traffic based on username, source/destination IP address or URL based regular expression.
269.				The proposed solution should provide historical reports based on username, IP address, Sender, Recipient & Virus Names.
270.				The proposed solution should have an integrated Anti-Spam solution.
271.				Heuristic analysis.
272.			IDS Component	Effective against blended threats.
273.				Automatic attack database update.
274.				Blocks anonymous proxies with HTTP proxy signatures.
275.				Custom Signature support.
276.				Supports attack recognition inside Ipv6 encapsulated packets.
277.				Security check updates do not require reboot of the unit.
278.				The device shall allow administrators to create Custom signatures.
279.				Signature based detection using updated database.
280.				The proposed solution should be able to protect web servers hosted in the network against SQL Injections, Cross-Site Scripting
281.				Session Hijacking, URL Tampering, Cookie Poisoning with Extensive reporting and Logging etc.
282.			Content & Application Filtering	URL Filtering for HTTP & HTTPS protocols.
283.				Web Content Filtering (Group and user – based filtering policies).
284.				Prevents downloads of streaming media selectively.
285.				Block Based on URL, Keyword or Phrases.
286.				Filters web contents.
287.			Interfaces	USB Port = 2No;
288.				Console Port = 1No.
289.				Management Port = 2x GE RJ45;
290.				WAN Port = 4x GE RJ45 port;
291.				LAN Port = 8x GE RJ45 port or higher to meet requirement.
292.			System Performance	Firewall performance min = 16Gbps

SI No	Equipment	Quantity	Component	Minimum Specification		
293.				Supported concurrent sessions min = 6 million		
294.				New sessions/second min =2,50,000		
295.				Maximum security policies min = 10,000		
296.				Con-current SSL-VPN user support min = 1500		
297.			Networking	Should also be able to handle dynamic routing for IPv4 (such as RIP , OSPF) and Ipv6 (such as RIPng, and OSPFv3)		
298.				Multiple WAN and WAN Backup should be supported		
299.				User Authentication Options: Build in Database		
300.			Reporting and Logging Console	The hardware based internal / External reporting and logging device must be capable of generating both generic and user based reports.		
301.				Graphical real-time and historical monitoring.		
302.				Email Notification of events.		
303.				SNMP support.		
304.				Syslog server support.		
305.			Management and Administration Options	Web UI (HTTP/ HTTPS) and Command Line Interface.		
306.				Role-based administration.		
307.				Multiple Administrators and User Levels.		
308.				Upgrades & changes via Web UI.		
309.				Capable of being centrally managed including configuration and updates.		
310.				Power	Input voltage 230V AC, 50 Hz. (Dual hot swappable)	
311.			NMS	1	Automatic topology discovery and creation of network maps for Layer 3 and Layer 2 network, All the available VLANS	
312.					Should have high level Network Inventory polling capability for IP Network nodes including the security appliance, All available line cards, Modules, ports, Physical links, VLAN interfaces and all the other SNMP capable devices in the network	
313.	Should have powerful administration control					
314.	Detailed performance monitoring and management					
315.	Should have extensive fault management capabilities with Real time Event and Alarm notifications, System Logs and Audit trials					
316.	Creation and management of security and QOS policies					
317.	Scheduled Device configuration back-up and restore functionality					

SI No	Equipment	Quantity	Component	Minimum Specification
318.			Automatic Detection of configuration changes for easy trouble shooting and Isolation	
319.			Should support 3rd party devices and end points	
320.			Should have the functionality of Group provisioning / Scheduled configuration roll out management	
321.			Should have the ability to perform scheduled or unscheduled network wide software or Firmware upgrades	
322.			Should have the ability to customize the NMS dash boards as per the requirements of technical team	
323.			Should have the ability to perform / create group of devices for applying same task	
324.			Should have extensive event notification capability	
325.			Should provide the flexibility to the network administrator to assign task to an Individual network engineer and assign ownership / track the status of the issue resolution	
326.			Should have extensive centralized trouble shooting tools in-built	
327.			The NMS solution should be preferably from the same Active switching vendor, in case vendors proposing for 3rd party NMS solution should provide all the interop reports certified by both the NMS vendor and Active switching and security gateway vendor on seamless interoperability	
328.			All the required Hardware / Software licenses for the NMS solution should be proposed by the bidder	
329.			Passive Components	1 Lot
330.	Database License		Bidder to provide Data base license as required	
331.	Antivirus Endpoint Security for Servers		Bidder to provide as required.	
Infrastructure at Emergency Response Center and Secondary Emergency Response Center				
332.	IP Phone with Headsets	100	Headsets should have Quick connect feature to connect phone/desktop/mobile using a magnetic technology	
333.			It should support wideband voice quality and assure excellent reproduction of sound	
334.			It should offer hearing protection on the users hearing by moderating the acoustic energy channelled to the user. This should also have a tight integration with the supplied phones.	
335.			It should have noise cancellation through the microphone	
336.			There should be a PC tool to allow management of headset for firmware upgrades and device settings like auto answer and equalizer	
337.	55 Inch 2x2 Video wall Monitors with controller (10x4 feet)	2	Diagonal Size	55"
338.			Number of panels	8
339.			Type	D-LED or better
340.			Resolution	1920*1080 or better

SI No	Equipment	Quantity	Component	Minimum Specification
341.			Pixel Pitch(mm)	0.63 mm (H) * 0.63mm(V) or better
342.			Brightness	700 cd / m2 or better
343.			Contrast Ratio	4000:1 or better
344.			Viewing Angle(H/V)	175/175 or better
345.			Response Time	10 ms or better
346.			Display Colours	8bit-16.7M or better
347.			Operation Hour	24/7
348.			Input - RGB	Analog D-SUB, DVI-D, Display Port 1.2
349.			VIDEO	HDMI1, HDMI2
350.			AUDIO	Stereo mini Jack
351.			USB	Yes
352.			Output - RGB	DP 1.2 (Loop-out)
353.			AUDIO	Stereo mini Jack
354.			Connectivity ports	RS 232 C (in / out), RJ 45
355.			Sensor type	Detachable type (IR, Ambient)
356.			Power Supply	AC100-240V~(+/-10%),50/60Hz
357.			Vesa mount	600X400 mm
358.			Bezel to Bezel width	1.7mm or less
359.			Certification	Safety - UL 60950-1
360.				EMC - EN55022, EN55024
361.				Video wall 10X10 Daisy chain support
362.			Others	Image rotation
363.				UHD resolution support
364.				Firm ware update through USB
365.			Controller Features	The controller should offer advanced access and real-time control of Local and remote AV Input devices
366.				It should allow users to independently switch and route multimedia by pressing the front panel buttons

SI No	Equipment	Quantity	Component	Minimum Specification
367.				It should have built-in scaler on each output port to support scaling function for different video resolutions
368.				The front panel LCD should show active port connections
369.				It should have capability to accommodate any combinations of digital formats such as DVI, HDMI etc.
370.				It should have capability to connect 16 Video sources to any of 16 displays
371.				It should support various video resolutions like 480p,720p,1080p,VGA,SVGA,XGA,SXGA,WUXGA
372.				It should support 3DHDMI deep colour
373.				It should have EDID expert setting for high quality display
374.				It should easily switch between multiple sources and multiple displays
375.				It should have front panels push buttons
376.				It should have built-in bi directional RS 232 serial port for system control
377.				It should have browser-based GUI and should support Telnet
378.				It should have firm ware upgrade through Web
379.				It should have rack mountable
380.				It should have high speed switching between all inputs and outputs to minimize latency
381.				It should have built hot pluggable fans cooling mechanism
382.				It should have hot pluggable redundant power supply
383.				It should have following Ports /Switches <ul style="list-style-type: none"> • Ethernet –RJ 45 • RS 232 • RS 485 • Input pushbuttons -16 nos • Output pushbuttons -16 nos
384.				Power input 230VAC
385.	Video Wall (8x4 feet)	1	Please refer Video wall specification mentioned at point no 319 of this table. The size should be 8x4 feet	
386.	Display Units (55")	12	Diagonal Size	55"
387.			Quantity	8 Nos

SI No	Equipment	Quantity	Component	Minimum Specification		
388.			Type	D-LED or better		
389.			Resolution	1920*1080 or better		
390.			Pixel Pitch(mm)	0.63mm(H) * 0.63mm(V) or better		
391.			Brightness	700cd/m2 or better		
392.			Contrast Ratio	4000:1 or better		
393.			Viewing Angle(H/V)	175/175 or better		
394.			Response Time	10ms or better		
395.			Display Colours	8bit-16.7M or better		
396.			Operation Hour	24/7		
397.			Input - RGB	AnalogD-SUB,DVI-D,DisplayPort1.2		
398.			VIDEO	HDMI1,HDMI2		
399.			AUDIO	Stereo mini Jack		
400.			USB	Yes		
401.			Output - RGB	DP1.2(Loop-out)		
402.			AUDIO	Stereo mini Jack		
403.			Connectivity ports	RS232C(in/out),RJ45		
404.					Sensor type	Detachable type (IR, Ambient)
405.					Power Supply	AC100-240V~(+/-10%),50/60Hz
406.					Vesa mount	600X400 mm
407.					Bezel to Bezel width	1.7mm or less
408.	Certification	Safety - UL 60950-1				
409.	Others	EMC - EN55022, EN55024				
410.		Video wall 10X10 Daisy chain support				
411.		Image rotation				
412.		UHD resolution support				
413.		Firm ware update through USB				
414.	Workstations with Dual Monitors for COs for 108 services	42	CPU	core i7 or better		
415.			Memory	8 GB		
416.			Hard-Disk Drive	2 TB SATA HDD		

SI No	Equipment	Quantity	Component	Minimum Specification
417.			Display	2 x 21.5"-inch LCD / LED Display
418.			Display ports	2 VGA or 2 Display port with DP to VGA convertors
419.			Keyboard	Wired keyboard with 104 keys
420.			Mouse	Wired Optical with USB interface
421.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone
422.			Cabinet	Mini Tower
423.			Operating system	Windows 10 pro
424.			Anti-virus	To be provided
425.			Workstations with 3 Monitors for DOs, ERCPs and Supervisors for 108 services	34
426.	Memory	8 GB		
427.	Hard-Disk Drive	2TB SATA HDD		
428.	Display	2 x 21.5"-inch LCD/LED Display		
429.	Display ports	2 VGA or 2 Display port with DP to VGA convertors		
430.	Keyboard	Wired keyboard with 104 keys		
431.	Mouse	Wired Optical with USB interface		
432.	Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone		
433.	Cabinet	Mini Tower		
434.	Operating system	Windows 10 pro		
435.	Anti-virus	To be provided		
436.	Workstations with single Monitors for Feedback, Quality for 108 services	12	CPU	core i7 or better
437.			Memory	8 GB
438.			Hard-Disk Drive	2TB SATA HDD
439.			Display	2 x 21.5"-inch LCD/LED Display
440.			Display ports	2 VGA or 2 Display port with DP to VGA convertors
441.			Keyboard	Wired keyboard with 104 keys
442.			Mouse	Wired Optical with USB interface
443.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone
444.	Cabinet	Mini Tower		

SI No	Equipment	Quantity	Component	Minimum Specification
445.	Workstations with single Monitors for Information Officers, Medical Advisors, Medical Counsellors, Feedback, Quality and Supervisors for 104 services	26	Operating system	Windows 10 pro
446.			Anti-virus	To be provided
447.			CPU	core i7 or better
448.			Memory	8 GB
449.			Hard-Disk Drive	2TB SATA HDD
450.			Display	2 x 21.5"-inch LCD/LED Display
451.			Display ports	2 VGA or 2 Display port with DP to VGA convertors
452.			Keyboard	Wired keyboard with 104 keys
453.			Mouse	Wired Optical with USB interface
454.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone
455.			Cabinet	Mini Tower
456.			Operating system	Windows 10 pro
457.			Anti-virus	To be provided
458.			Desktops	30
459.	Chipset	Compatible chipset		
460.	Display	21-inch HD Anti-Glare		
461.	Ram	4GB (4GB x1) DDR3L 1600Mhz (Unused Memory slot 1)		
462.	Hard Drive	500 GB or high		
463.	VGA	Video HD Graphics		
464.	Keyboard	Standard		
465.	Battery life	Minimum 4 hours or Higher		
466.	Port	4USB Ports (2x USB 2.0 + 2x USB 3.0),		
467.		Bluetooth v4.0 or Higher		
468.		HDMI and VGA Port		
469.		WiFi IEEE 802.11b/g/n & 10/100/1000 NIC		
470.	Certificate	EPEAT Gold Registered and Energy Star		
471.	OS	Preloaded latest Windows 10 OS with media and certification with free down gradable to Windows 8 OS and free upgradable to Windows latest version		

SI No	Equipment	Quantity	Component	Minimum Specification
472.			Office Suite	Should have the functionality of Excel, Power Point and Word Processor with professional support
473.	Workstation Operating System License – Windows 10 Pro, Microsoft office Licence	120		
474.	Antivirus Endpoint Security	120		
475.	48 Port POE switch	6		Switch should have minimum 48 No's of 10/100/1000 Base-Tx PoE ports (Duplex, Full, Half) and 4 x 1GE Uplink port. Switch PoE power rating should be 375W or more.
476.				Should have minimum switching capacity of 52 Gbps. All ports on the switch should work on line rate.
477.				Should be IPv4 and IPv6 ready from day one
478.				The switch should support dedicated stacking port separate from uplink ports with 48 Gbps of stacking bandwidth.
479.				It shall support 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.
480.				Port Security to secure the access to a port based on the MAC address of a user's device. The aging feature to remove the MAC address from the switch after a specific time to allow another device to connect to the same port.
481.				Switch should support Port-based and 802.1Q tag-based VLANs, MAC-based VLAN, Guest VLAN, Private VLAN Edge, also known as protected ports, with multiple uplinks
482.				All ports should have features of auto- negotiate, flow control (802.3x), port based network access control (802.1x), port security, MAC filtering etc.
483.				The switch should support IPv6 Guard, IPv6 RA-Guard, IPv6 DHCP-Guard, Source- Guard features
484.				All necessary SFP's, interfaces, connectors, patch cords (if any) & licenses must be delivered along with the switch from day one.
485.				The Switch should be 19" Rack mountable & the switch should be supplied with Indian standard AC (5Amp) power cord.
486.	48 port Access Switch	6		Switch with following port density: a) 48x10/100/1000 Base-T b) Additional 4x10G SFP+ ports. Populated with 1 No. of 10G SFP+ Module on Day1 c)Should be equipped with internal RPS
487.				Should support Virtual Switching System (VSS) / equivalent technology for higher availability of Layer 2 and Layer 3 including video applications Vendors should offer required cables/modules from day-1

SI No	Equipment	Quantity	Component	Minimum Specification
488.			The Virtual Switching System (VSS) / equivalent technology shall support virtualization of switch locally or over geographically diversified locations	
489.			Layer 2/3 Features: Should support 4K VLAN id's and 4K active VLAN,s, RSTP, MSTP, IGMP v1/v2,v3, IGMP/ MLD proxy,	
490.			Layer 3 Features: Should support Static routing, RIP, RIPng, OSPF, OSPFv3, PIM v4 SM, DM and SSM, PIMv6-SM based on network requirements	
491.			Standards: IEEE 802.3ac, IEEE 802.3az, IEEE 802.1v, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1D,VRRPv3, PVST+ compatibility mode, IEEE 802.3az, Open Flow 1.3 protocol capability to enable software-defined networking	
492.			IEEE 802.3z Energy Efficient Ethernet(EEE)	
493.			The Switch must support IEEE 802.17 or equivalent Ring resiliency / Ring protection technology for Sub 50Ms convergence time	
494.			Security: Should support ACLs, DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI), MAC address filtering and MAC address lock-down, Tri-authentication: MAC-based, web-based and IEEE 802.1x, DHCPv4 (server, relay and client)	
495.			Management : CLI, GUI, USB interface for taking backup of software release files configurations, DDM – Optical digital diagnostic monitoring as per SFF – 8472 or equivalent standards, TDR, Net flow/ S flow or equivalent, IPv6 Logo Ready from Day-1	
496.			Should support Unidirectional Link Detection (UDLD) or equivalent to detect unidirectional links caused by incorrect fibre optic wiring or port faults and disable on fibre optics interfaces	
497.			The switch should support in built Layer 1 monitoring capability for end to end security monitoring to avoid any eve drops or security breach on the Fibre uplink links.	
498.			Should seamlessly integrate with core switch	
499.			For ease of integration all switches, SFP's, AP's should of same OEM	
500.			24 port Core Switch	2
501.	Switch type	Layer 3		
502.	MAC	Support 8K or 16K MAC address. (as per solution offered)		
503.	Backplane	56 Gbps or more Switching fabric capacity for 24 ports.		
504.	Forwarding rate	Packet Forwarding Rate should be 70.0 Mbps or better		

SI No	Equipment	Quantity	Component	Minimum Specification
505.			Port Features	Must support Port Mirroring, Port Trunking and 802.3ad LACP Link Aggregation port trunks
506.			Flow Control	Support IEEE 802.3x flow control for full-duplex mode ports.
507.			Protocols	<ul style="list-style-type: none"> Support 802.1D, 802.1S, 802.1w, Rate limiting Support 802.1X Security standards Support 802.1Q VLAN encapsulation, IGMP v1, v2 and v3 snooping 802.1p Priority Queues, port mirroring, Diff serv Support based on 802.1p priority bits with at least 8 queues DHCP support & DHCP snooping/relay/optional 82/ server support Shaped Round Robin (SRR) or WRR scheduling support. Support for IPV6 ready features with dual stack Support up to 255 VLANs and up to 4K VLAN IDs Support IGMP Snooping, IGMP Querying and Multicasting Should support Loop protection and Loop detection Should support Ring protection (when used in aggregation location)
508.			Access Control	<ul style="list-style-type: none"> Support port security Support 802.1x (Port based network access control). Support for MAC filtering. Should support TACACS+ and RADIUS authentication
509.			VLAN	<ul style="list-style-type: none"> Support 802.1Q Tagged VLAN and port based VLANs and Private VLAN The switch must support dynamic VLAN Registration or equivalent Dynamic Trunking protocol or equivalent
510.			Protocol and Traffic	<ul style="list-style-type: none"> Network Time Protocol or equivalent Simple Network Time Protocol support Switch should support traffic segmentation Traffic classification should be based on user-definable application types: TOS, DSCP, Port based, TCP/UDP port number
511.			Management	<ul style="list-style-type: none"> Switch needs to have RS-232/USB console port for management via a console terminal / PC Must have support SNMP v1,v2 and v3 Should support 4 groups of RMON

SI No	Equipment	Quantity	Component	Minimum Specification
				Should have accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface
512.	Laser Printer with scan and copy	6	Printer type	Laser; Functionality: All-in-One; Scanner type – flatbed;
513.			Printer output	Monochrome
514.			Connectivity	Wi-Fi, USB, Networking
515.			Pages per minute	27 (Black);
516.			Ideal Usage	Enterprise/Business, Frequent users (for fast, high quality printing)
517.			Page Size Supported	A4, B5, A5, Legal, Letter, Executive, Envelope C5 / COM10 / DL, Monarch;
518.			Duplex Print	Automatic
519.			Print Resolution	1200 x 1200dpi
520.			Duty Cycle	25,000 sheets or better per month
521.			Supported OS	Microsoft Windows 10 (32 / 64-bit) or later
522.			Heavy duty Printer with scan and copy	2
523.	Toner	8000 Pages Yield		
524.	Paper	Plain Paper Letterhead Coloured Paper Thin Paper Recycled Paper A4 Letter Legal India Legal Folio		
525.	Scan	Max Size 8.5 x 14 Inch Can scan legal paper Colour Scanning Laser Scanning		
526.	Copy	Max Width 8.26 Inch Multiple Copies: 99 Enlarge/Reduce: 25 to 400% (in increments of 1%) Max Resolution: 1200 x 600 dpi		
527.	Fax	Max Width: 8.19 mm Broadcasting: 350 Locations Speed Dial 300 Locations Automatic Redial: 3 times at 5 minutes interval Memory Transmission: 500 Pages		
528.	Body	Dimensions: 495x427x486 (WDH) 2 Input Tray Input Tray: 2 x 250 sheets ADF Tray : 70 Sheets Output Tray: 150 Sheets Display: 3.7-Inch TFT Colour LCD Memory: 1GB Weight: 17.7 Kg Active Power consumption: 645-Watt		
529.	Connectivity	USB 2.0 LAN Wireless LAN Network Printer		
530.		2	Capacity	100KVA
531.			Output Wave Form	Pure Sine wave

SI No	Equipment	Quantity	Component	Minimum Specification
532.	100 KVA Online UPS with 90 Minutes Backup for ERC		Input Power Factor at Full Load	>0.90
533.			Input	Three Phase
534.			Input Voltage Range	305-475VACat Full Load
535.			Input Frequency	50Hz+/-3Hz
536.			Output Voltage	400VAC,ThreePhase
537.			Output Frequency	50Hz+/-0.5%(Free running);+/-3%(Sync Mode)
538.			Inverter efficiency	>90%
539.			Over All AC-AC Efficiency	>85%
540.			UPS shutdown	UPS should shutdown with an alarm and indication on following conditions 1) Output over voltage 2) Output under voltage
541.			Battery Backup	15 minutes in full load
542.			Battery	VRLA (Valve Regulated Lead Acid) / SMF (Sealed Maintenance Free) Battery
543.			Indicators & Metering	Indicators for AC Mains, Load on Battery, Fault, Load Level, Battery Low Warning, Inverter On, UPS on Bypass, Overload etc. Metering for Input Voltage, Output Voltage
544.			Audio Alarm	Battery low, Mains Failure, Over temperature, Inverter overload, Fault etc.
545.			100 KVA Generator for ERC	1
546.	Engine	Radiator cooled, multi cylinder, 1500 RPM diesel engine with electronic / manual governor and electrical starting arrangement complete with battery, conforming to BS 5514 / ISO 3046/ IS 10002		
547.	Fuel	High Speed Diesel (HSD)		
548.	Alternator	Self-exciting, self-regulating type alternator rated at 0.8 PF or better, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec, 1500 RPM, conforming to IS 4722/ BS 5000, Windings of 100% Copper, class H insulation, Protection as per IP 23.		
549.	AMF (Auto Main Failure) Panel	AMF Panel fitted inside the enclosure, with the following: It should have the following meters / indicators a. Incoming and outgoing voltage b. Current in all phases		

SI No	Equipment	Quantity	Component	Minimum Specification
				<ul style="list-style-type: none"> c. Frequency d. KVA and power factor e. Time indication for hours/minutes of operation f. Fuel Level in fuel tank, low fuel indication g. Emergency Stop button h. Auto/Manual/Test selector switch i. MCCB/Circuit breaker for short-circuit and overload protection j. Control Fuses k. Earth Terminal l. Any other switch, instrument, relay etc. essential for Automatic functioning of DG set with AMF panel
550.			Acoustic Enclosure	The DG set shall be provided with acoustic enclosure / canopy to reduce the sound level and to house the entire DG set (Engine & Alternator set) assembly outside (open-air). The enclosure must be weather resistant powder coated, with insulation designed to meet latest MOEF/CPCB norms for DG sets, The enclosure must have ventilation system, doors for easy access for maintenance, secure locking arrangement
551.			Fuel Tank Capacity	It should be enough and suitable for containing fuel for minimum 12 hours continuous operation, Complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of fuel hoses for inlet and return.
552.	40KVA Online UPS with 90 minutes Backup for SERC	1	Capacity	40KVA
553.			Output Wave Form	Pure Sine wave
554.			Input Power Factor at Full Load	>0.90
555.			Input	Three Phase
556.			Input Voltage Range	305-475VACat Full Load
557.			Input Frequency	50Hz+/-3Hz
558.			Output Voltage	400VAC,ThreePhase
559.			Output Frequency	50Hz+/-0.5%(Free running);+/-3%(Sync Mode)
560.			Inverter efficiency	>90%
561.			Over All AC-AC Efficiency	>85%
562.			UPS shutdown	UPS should shutdown with an alarm and indication on following conditions 1) Output over voltage 2) Output under voltage
563.			Battery Backup	15 minutes in full load
564.			Battery	VRLA (Valve Regulated Lead Acid) / SMF (Sealed Maintenance Free) Battery

SI No	Equipment	Quantity	Component	Minimum Specification
565.	40 KVA Generator for SERC	1	Indicators & Metering	Indicators for AC Mains, Load on Battery, Fault, Load Level, Battery Low Warning, Inverter On, UPS on Bypass, Overload etc. Metering for Input Voltage, Output Voltage
566.			Audio Alarm	Battery low, Mains Failure, Over temperature, Inverter overload, Fault etc.
567.			General Specifications	Auto Starting DG Set mounted on a common base frame with AVM (Anti-Vibration) pads, residential silencer with exhaust piping, complete conforming to ISO 8528 specifications and CPCB certified for emissions. KVA rating as per the requirement
568.			Engine	Radiator cooled, multi cylinder, 1500 RPM diesel engine with electronic / manual governor and electrical starting arrangement complete with battery, conforming to BS 5514 / ISO 3046/ IS 10002
569.			Fuel	High Speed Diesel (HSD)
570.			Alternator	Self-exciting, self-regulating type alternator rated at 0.8 PF or better, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec, 1500 RPM, conforming to IS 4722/ BS 5000, Windings of 100% Copper, class H insulation, Protection as per IP 23.
571.			AMF (Auto Main Failure) Panel	AMF Panel fitted inside the enclosure, with the following: It should have the following meters / indicators m. Incoming and outgoing voltage n. Current in all phases o. Frequency p. KVA and power factor q. Time indication for hours/minutes of operation r. Fuel Level in fuel tank, low fuel indication s. Emergency Stop button t. Auto/Manual/Test selector switch u. MCCB/Circuit breaker for short-circuit and overload protection v. Control Fuses w. Earth Terminal Any other switch, instrument, relay etc. essential for Automatic functioning of DG set with AMF panel
572.			Acoustic Enclosure	The DG set shall be provided with acoustic enclosure / canopy to reduce the sound level and to house the entire DG set (Engine & Alternator set) assembly outside (open-air). The enclosure must be weather resistant powder coated, with insulation designed to meet latest MOEF/CPCB norms for DG sets, The enclosure must have ventilation system, doors for easy access for maintenance, secure locking arrangement

SI No	Equipment	Quantity	Component	Minimum Specification
573.			Fuel Tank Capacity	It should be enough and suitable for containing fuel for minimum 12 hours continuous operation, Complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of fuel hoses for inlet and return.
574.	Passive Component	1 Lot	Total consumption and LAN length	should be mentioned.
575.	24U Rack with all accessories	1	Depth	800 mm or above
576.			1U Cable manager	Bidder to specify
577.			Front Door Options	Tough tinted glass or better with Lock and Key
578.			Cable Entry Provision	Top and Bottom
579.			Rear Door Options	Perforated Steel
580.			Top Panel Options	Vented Hole provision for Cabling
581.			Side Panel Options	Removable Sides – Left and Right
582.			Ventilation Fan	2 Nos. of Fan tray with 4 Fans each
583.			Adjustable Shelves	4 Nos.
584.			Sliding/Rotating Keyboard Shelf	Qty 1
585.			AC Distribution Box with ON / OFF switch	5/15A sockets -10 x 2
586.			Mounting Hardware, Casters, Levellers and Blanking Panels	Should be provided as per requirement
587.			Full HD dome cameras	12
588.	Effective Pixels	1920 (H) x 1080 (V)		
589.	Scanning System	Progressive with Multiple Simultaneous Streaming		
590.	Electronic Shutter Speed	Auto / Manual 1/3~1/10000		
591.	Minimum Illumination	Color:0.2Lux/F1.6,B/W:0.01Lux/F1.6		
592.	S/N Ratio	>50dB		
593.	Day/Night	Auto (Electronic) / Colour / B/W		
594.	Backlight Compensation	BLC/HLC/DWDR		
595.	White Balance	Auto		
596.	Gain Control	Auto / Manual		
597.	Local Storage	Minimum 128GB SD Card		
598.	Focal Length	As per solution offered		

SI No	Equipment	Quantity	Component	Minimum Specification
599.			Focus Control	Fixed lens
600.			Mount Type	Board-in Type
601.			Compression	H.264 /MJPEG
602.			Resolution	1080P (1920x1080) / 720P (1280x720) / D1 (704x576) / CIF (352x288)
603.			Frame Rate	Main Stream 1080P / 720P (1~25 / 30 fps)
604.				Sub Stream 720p (1~25 / 30 fps) and below
605.			Bit Rate	H.264:32K~8192 Kbps, MJPEG: 32K~20480 Kbps
606.			Ethernet	RJ-45(10/100 Base-T)
607.			Protocol	IPv4 / IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, SNMP, RTSP, RTP, NTP, DHCP, DNS, DDNS, IP Filter, QoS
608.			Interoperability	ONVIF Profile S/G (with support for retrieving video stored in local memory card)
609.			Maximum User Access	More than 10 users
610.			Power Supply	DC12V, PoE (802.3af)
611.	Working Environment	-10°C~+60°C,10%~90%		
612.	Certification	UL/EN, CE,FCC		

Infrastructure at Ambulances & MMUs

613.	Mobile Data Terminal Units (Rugged) for Ambulances	800	Processor	Octa-Core CPU with minimum processor speed 1.4Ghz or higher
614.			Memory	Minimum 4GB RAM or higher
615.			Storage	Minimum 64GB built in or higher
616.			Display	7-8" with resolution of WXGA 1280 x 800 LED backlighting Brightness 400 NITS or above
617.			Sensors	Ambient light, E-compass, Gyro, Acceleration
618.			Keyboard & input	Multi point touch with support for Glove / Wet operation. Minimum 2 user-definable Function buttons
619.			Cameras	Front 2MP with mic; 13 MP rear camera
620.			Interface	USB 3.1 type C; Micro SD Card slot; SIM slot
621.			Wireless	Wi-Fi 802.11ac, Bluetooth
622.			Mobile Broadband	Integrated 4G LTE with fallback to 3G / 2G and with voice calling over 4G LTE. Good quality Bluetooth Headset to be provided

SI No	Equipment	Quantity	Component	Minimum Specification		
623.			GPS	Integrated dedicated satellite GPS with external antenna connector on the tablet		
624.			Power supply	Lithium - Ion battery, Minimum 7500 mAH		
625.			Software	Android 7.0 or higher User Button Manager		
626.			Weight	Not more than 750gm		
627.			Durability	MIL-STD-810G Certificate (5' drop, shock, vibration, rain, dust) IP65 design sealed all-weather fan less design		
628.			Vehicle Dock	Vehicle cradle with keyed lock for theft deterrence and Dashboard mount. The dock should be Fully Rugged:- Vibration Tested: MIL-STD 810G Shock Crash Hazard: SAE J1455; Mechanical Shock: 40g		
629.			Vehicle Power adaptor	Vehicle power adaptor		
630.			Eligibility criteria	1. MIL-STD-810G Certificate for MDT needs to be submitted from any Govt Accreditation lab		
631.				2. Should have a valid BIS certificate		
632.				3. OEM should be present in India for minimum last 3years.		
633.				4. The Model being quoted should have been deployed in any of the Govt /PSU and should be in operation for a minimum of 1year (minimum qty of 100 Nos)		
634.			Mounts for MDT	800		
635.			MDT application software	800		
636.	Mobile Phones	2250	Processor	1.86 GHz Octa core Processor or higher		
637.			RAM	Minimum 2 GB		
638.			Storage	Minimum 16 GB		
639.			SIM	Single SIM or above		
640.			Network Technology	Should support all frequencies of GSM as listed by TRAI / WPC supporting 2G, 3G & 4G networks		
641.			Display	Min 5.5 Inches or Higher		
642.			OS	Android 9.0 or Latest		
643.			Resolution	1080x1920 pixels or Higher		
644.			Front Camera	Min 5 megapixel		

SI No	Equipment	Quantity	Component	Minimum Specification
645.			Rear Camera	Min 8 megapixel
646.			Universal Port	Type C
647.			Bluetooth	Min v4.2
648.			Wi-Fi	802.11 a/b/g/n
649.			Battery Capacity	3800 mah or higher
650.			Headset Port	3.5 mm
651.			Onsite Support	3 Years
652.			Launch Date	After Jan 2019
653.			Benchmarks	Mobile XPRT-2015 Performance Rating 100 or more. UX Rating – 90 or more. Full disclosure report has to be submitted by the bidder.
654.			Mobile Device Management (MDM)	Password Protection
655.				Password reset
656.				Remote Device wipe
657.				Remote Lock
658.			SAR (Specific Absorption Rate) below 1.6 w/kg	The bidder shall submit the SAR Certificate along with the bid. In case any bidder doesn't have the SAR certification as on the date of bid submission, a declaration needs to be submitted along with the bid stating that the SAR certification will be provided before the scheduled delivery of the equipment.
659.	SD Card Provision	Yes		
660.	Laptops with Windows 10 OS , Antivirus , MS office	720	CPU	Core i5
661.			Memory	8 GB
662.			Hard-Disk Drive	500 GB
663.			Display	15"-inch LCD / LED Display
664.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone
665.			Operating system	Windows 10 pro
666.			Anti-virus	To be provided
667.	AVLS / GPS Device	1400	AIS 140 standard	
668.	Blue tooth Headsets	800	Should be compatible with the MDT devices installed in the Ambulances	
669.		1500	RF Option	13.45 MHz MIFARE

SI No	Equipment	Quantity	Component	Minimum Specification
670.	Biometric Terminal for time and attendance		Users (1:1)	5000 or better
671.			Users(1:N)	5000 or better
672.			Maximum Finger per User	10
673.			Text Log	50,000
674.			CPU	533MHzDSP
675.			Memory	16MB RAM+8MB Flash
676.			LCD Type	128x64 Graphic LCD (Monochrome)
677.			Operating Temperature	-20°C~50°C
678.			Ethernet	10/100 Mbps, auto MDI / MDI-X
679.			Dome Camera with 64 GB SD card	800
680.	Effective Pixels	1920 (H) x 1080 (V)		
681.	Scanning System	Progressive with Multiple Simultaneous Streaming		
682.	Electronic Shutter Speed	Auto / Manual 1/3~1/10000		
683.	Minimum Illumination	Color:0.2Lux/F1.6,B/W:0.01Lux/F1.6		
684.	S/N Ratio	>50dB		
685.	Day/Night	Auto (Electronic) / Colour / B/W		
686.	Backlight Compensation	BLC/HLC/DWDR		
687.	White Balance	Auto		
688.	Gain Control	Auto / Manual		
689.	Local Storage	Minimum 128 GB SD Card		
690.	Focal Length	As per solution offered		
691.	Focus Control	Fixed lens		
692.	Mount Type	Board-in Type		
693.	Compression	H.264 /MJPEG		
694.	Resolution	1080P (1920x1080) / 720P (1280x720) / D1 (704x576) / CIF (352x288)		
695.	Frame Rate	Main Stream 1080P / 720P (1~25 / 30 fps)		
696.		Sub Stream 720p (1~25 / 30 fps) and below		
697.	Bit Rate	H.264:32K~8192 Kbps, MJPEG: 32K~20480 Kbps		

SI No	Equipment	Quantity	Component	Minimum Specification
698.			Ethernet	RJ-45(10/100 Base-T)
699.			Protocol	IPv4 / IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, SNMP, RTSP, RTP, NTP, DHCP, DNS, DDNS, IP Filter, QoS
700.			Interoperability	ONVIF Profile S/G (with support for retrieving video stored in local memory card)
701.			Maximum User Access	More than 10 users
702.			Power Supply	DC12V, PoE (802.3af)
703.			Working Environment	-10°C~+60°C,10%~90%
704.			Certification	UL/EN, CE,FCC
705.			2 KVA Inverter with 65 AH battery	1444
706.	Cabling	1444		
707.	Installation testing and Commissioning	1444		
Connectivity Requirements				
708.	30 Mbps MPLS connectivity Between DC, ERC and SERC	1		
709.	Supply and Laying of 4 core Armoured cable between DC and ERC including trenching and HDPE conduit	1000		
710.	PRI Line Charges (Incoming & Outgoing)	1	No. of PRI Line	10 PRI lines; 3 PRI line from BSNL for Incoming (ERC and SERC); 2 PRI line with Outgoing facility also from BSNL (ERC and SERC); 2 PRI line from Other service provider for Outgoing.
711.			Type	Single incoming number with 30 Channels / Lines
712.			Availability	Superior Voice clarity with 100% uptime
713.	100 Mbps or higher internet leased line with 8 static IP at DC	1	Speed requirement	16 Mbps or higher internet leased line with 8 static IP for each line
714.			Type	1:1 Balanced Port to Port non sharing Internet leased line connectivity
715.			Output	Ethernet type using suitable routers along modem if required

SI No	Equipment	Quantity	Component	Minimum Specification
716.			Accessories & installation	Suitable Modem /router should be provided based on provision of Ethernet type connecting cables with accessories etc.
717.			Installation and commissioning	Should carryout necessary installation of line and configuration of router based on user requirement.
718.			Support	Annual Basis with 24 x 7 support
719.			Compliance	All Equipment should be CE / FCC compliance or certified.
720.			Availability	Different service provider shall be chosen to ensure 100% availability to support 24x7 operation
721.			Support	Warranty and maintenance also shall be covered for routers & modem
722.			4G Sim cards for MDT , GPS, Laptop, Smart Phones, Biometric device with 2GB Monthly plan	7000
723.	4G Hotspot for CCTV live streaming with 10GB Monthly Plan	1444		

Note:

1. The bidder should size the DR for data backup in a passive mode.
2. The Infrastructure only for the hosting the applications at DC and DR will be made available by the Client. The remaining infrastructure necessary at DC, DR, ERC, SERC, Ambulances, MMUs and Connectivity to functionalize the project shall be provided by the bidder.

5.8 Manpower Requirement

5.8.1 Technical and Operations Manpower requirement

S. No	Designation	Minimum Number of Resources	Indicative qualification
1	Project Director	1	<ul style="list-style-type: none"> a. MBA/ M.Tech/ B.E/ B.Tech with 15 year of experience of working in IT/ITES Sector with at least 3 years in leadership roles b. Should have more than 8 years of experience of handling similar large projects in Emergency Response Services or IT System Integration
2	Project Manager (108 Services)	1	<ul style="list-style-type: none"> a. B.E./ BTech/ MCA with Mtech or MBA with 12 year of total experience of handing IT / ITES / ERS large project b. PMI or Prince 2 Certification desirable c. Should have minimum 5 years of experience in managing at least 50-seater ERC or a BPO
3	Project Manager (104 Services)	1	<ul style="list-style-type: none"> a. B.E./ Btech/ MCA with Mtech or MBA with 12 year of total experience of handing IT / ITES / ERS large project b. PMI or Prince 2 Certification desirable c. Should have minimum 5 years of experience in managing at least 50-seater ERC or Health advisory Call center
4	Project Manager (IT)	1	<ul style="list-style-type: none"> a. B.E./ Btech/ MCA with Mtech or MBA with 12 year of total experience of handing IT / ITES / ERC large project b. PMI or Prince 2 Certification preferable c. Should have minimum 5 years of experience in managing applications of ERC or similar projects
5	Solution Architect Cum DC Specialist (DC, DR)	1	<ul style="list-style-type: none"> a. B.Tech / B.E./ MCA with 10 year of experience in Data center solution b. Should have hands on experience in implementing solutions for at least 2 projects involving emergency response centers
6	Application Solution Architect	1	<ul style="list-style-type: none"> a. B.Tech/B.E./MCA with 10 year of experience in Application Development / Solution Architect b. Should have experience in implementing solutions for at least 2 emergency response centers
7	Network Solution Architect	1	<ul style="list-style-type: none"> a. B.Tech / B.E./ MCA with 10 year of experience in Network design / solution with CCNA ,CCNP/ CWNA
8	CAD Solution Expert	1	<ul style="list-style-type: none"> a. B.Tech / B.E./ MCA with 10 year of experience in Application development / product development with Certification / training in OEM products
9	GIS Solution Expert	1	<ul style="list-style-type: none"> a. B.Tech / B.E./ MCA with 10 year of experience in GIS Application development / product development with relevant Certifications / trainings in GIS products

S. No	Designation	Minimum Number of Resources	Indicative qualification
10	Contact Center Solution Expert	1	a. B.Tech / B.E./ MCA with 10 year of experience in Contact center solutions / products with relevant Certifications / trainings in OEM products
11	Voice Solution Expert	1	a. Graduation with relevant experience of 10 Year in Voice solutions / products should have worked on large scale projects
12	Information Security/ Cyber Security Solution Architect	1	a. Graduation with relevant experience of 10 Year on large-scale projects as Information Security/ Cyber Security expert
13	Database Administrator	1	a. B.Tech/B.E./MCA with 10 year of experience as Database administrator DBA certification of proposed data base
14	System Administrator	1	a. B.Tech/B.E./MCA with 10 year of experience in managing Technology project with relevant experience in proposed OS (like Unix / Linux etc.) and system admin
15	Network Administrator	1	a. B.Tech / B.E./ MCA with 10 year of experience in Network design/solution with CCNA / CCNP / CWNA
16	Other resources such as Helpdesk support, receptionist etc. as required to operate a fully functional ERC and SERC		

In addition to the resources mentioned above, core resources are required at ERC and SERC per shift for providing 108 and 104 services as mentioned in section 5.1. Any additional resources shall be factored in by the bidder, including DC and DR.

Resource qualifications for 108 services

S. No	Designation	Indicative qualification
1	CO	Intermediate Pass; Should speak fluent Telugu, English and Hindi in a pleasant voice. With Passion for helping others. Should be less than 25 years
2	DO	Graduate; Should speak fluent Telugu, English and Hindi in a pleasant voice. With Passion for helping others, Decision making, follow up and resource leveraging. Should be less than 30 years
3	ERCP	MBBS with additional qualification in Emergency medicine with good clinical skills. Should be less than 35 years
4	Supervisors	a. Graduate / Post Graduate from UGC / AICTE recognized institute b. Should have minimum 5 years in managing an ERC or similar projects c. Should be fluent in Hindi, English & Telegu

S. No	Designation	Indicative qualification
5	Feedback	Intermediate Pass; Should speak fluent Telugu, English and Hindi in a pleasant voice. With Passion for helping others. Should be less than 25 years
6	Quality	a. Graduate / Post Graduate from UGC / AICTE recognized institute b. Should have minimum 5 years in managing an ERC or similar projects c. Should be fluent in Hindi, English & Telegu
7	Emergency Medicine Learning Center Trainer (EMLC) Trainer –	MBBS with additional qualification in Emergency medicine with good training skills.

Resource qualifications for 104 services

S. No	Designation	Indicative qualification
1	Information Officer –	Intermediate Pass; Should speak fluent Telugu, English and Hindi in a pleasant voice. With Passion for helping others. Should be less than 25 years
2	Medical Advisor -	MBBS with additional qualification in Emergency medicine with good clinical skills. Should be less than 35 years
3	Medical Counsellor	a. Should have any of the following qualification with at least 5 years of experience in Health sector: b. Master's degree in psychology /Clinical Psychology c. Should be fluent in Hindi, English & Telegu Minimum 2 years of experience in handling emergency response services in a ERC preferably in Health sector
4	Grievance Officer	Intermediate Pass; Should speak fluent Telugu, English and Hindi in a pleasant voice. With Passion for helping others. Should be less than 25 years

6. Conditions of Eligibility of bidders

6.1 Pre-qualification criteria

S. No	Eligibility	Documents Required
1	<p>The Bidder should be a Sole or Consortium registered under the Companies Act, 1956 / 2013 in India</p> <p>Consortium members will be limited to two (2)</p> <p>Note: The bidders who are successful as “Ambulance Integrator” or “Service Provider” (refer section 4 - General references) shall not participate in this procurement process.</p>	Certificate of Incorporation
2	Bidder must have a registered office for doing business in India for a period of at least last 5 years as on March 31, 2019	Certificate of Incorporation and Commencement of Business & Audited Financial Report
3	Bidder should have an Average Annual Turnover during last three financial years of Rs. 100 Crore or more from IT system integration and maintenance services	<p>Audited Balance Sheet / Annual Reports and Profit & Loss account statements for last three years</p> <p>Annual Turnover details of the responding firm certified by statutory auditor of the firm.</p>
4	Bidder should not have been terminated / blacklisted / debarred by any Central/State Government agencies in India	Self-declaration certificate by authorized signatory that bidder is not blacklisted by any Government Organization.
5	Bidder should have successfully implemented or currently running at least one statewide emergency response center (Police, Medical, Fire, Disaster) with at least 50 seats.	Project Citation supported with Work Order and / or Proof of Project Completion Certificates from client.
6	Bidder should have positive Net Worth as on ‘15 th October 2019’	Net worth details of the bidder certified by statutory auditor

6.2 Technical Qualification and Evaluation Criteria

S. No	Eligibility	Documents Required						
1	<p>During the last five financial years, the bidder should have the experience in Operating and maintaining ERC for Central / State Govt. agency</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Two Projects or more</td> <td>15</td> </tr> <tr> <td>One Project</td> <td>8</td> </tr> </tbody> </table>	Description	Marks	Two Projects or more	15	One Project	8	<p>Work order / Contract / Client certificate clearly highlighting Scope of work, value of the contract / order etc. specifying the required details.</p> <p>In case of a large contract, the component / part of work awarded to the bidder complying with the Scope of work of this document should be clearly highlighted.</p>
Description	Marks							
Two Projects or more	15							
One Project	8							
2	<p>During the last five financial years, the bidder should have the experience in operating and maintaining ERC with seating capacity of at least 50 seats for Central / State Govt.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>More than 50-seater ERC</td> <td>10</td> </tr> <tr> <td>50-seater ERC</td> <td>5</td> </tr> </tbody> </table>	Description	Marks	More than 50-seater ERC	10	50-seater ERC	5	<p>Documentary evidence from bidder (Copy of Client certificate or Work order or Contract) highlighting the relevant pages</p>
Description	Marks							
More than 50-seater ERC	10							
50-seater ERC	5							
3	<p>The proposed ERC solution should have been implemented in minimum one project handling over 30,000 calls per day in India in last 3 years. The project should be operational as on date of bid submission.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>More than 30,000 calls per day</td> <td>10</td> </tr> <tr> <td>30,000 calls per day</td> <td>5</td> </tr> </tbody> </table>	Description	Marks	More than 30,000 calls per day	10	30,000 calls per day	5	<p>Documentary evidence from bidder (Copy of Client certificate and evidence of call logs report) highlighting the relevant pages of the document</p>
Description	Marks							
More than 30,000 calls per day	10							
30,000 calls per day	5							

S. No	Eligibility	Documents Required								
4	<p>The bidder should have successfully implemented stack of solution(s)* for performing Emergency response services in India. The proposed solution should have ERC solution integrated with GIS solution, AVLS, MDT and functionalities as below</p> <p>Core functionality</p> <ol style="list-style-type: none"> 1 Call Management 2 Dispatch management 3 Live Tracker using AVL solution 4 Dial and Call Logger 5 Integration with MDT in the vehicles 6 SLA Monitoring of Vehicles Providers / Service provider at field 7 Analytics and dashboards <p>Additional functionality</p> <ol style="list-style-type: none"> 8 Fleet Management (preventive, major and minor repairs) 9 Inventory Management 10 Backup Operations center 11 HR Management 12 Feedback from citizens <p>The project should also cover end-to-end setup including Hardware, Networking, Software IT applications etc.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Full compliance – Core and additional five functionalities</td> <td>15</td> </tr> <tr> <td>Full Compliance – Core and additional three functionalities</td> <td>12</td> </tr> <tr> <td>Full Compliance – Core functionality</td> <td>10</td> </tr> </tbody> </table> <p>* The bidder (consortium partners either individually or jointly) should have delivered the solutions with their OEMs who have authorized consortium partners to participate in this tender with their respective products or services.</p>	Description	Marks	Full compliance – Core and additional five functionalities	15	Full Compliance – Core and additional three functionalities	12	Full Compliance – Core functionality	10	<p>Letter from the authorized signatory of the bidder along with the copy of relevant pages</p> <p>Documentary evidence from bidder (Copy of Client certificate or Purchase order or Contract) indicating the functionalities of the solution implemented</p>
Description	Marks									
Full compliance – Core and additional five functionalities	15									
Full Compliance – Core and additional three functionalities	12									
Full Compliance – Core functionality	10									

S. No	Eligibility	Documents Required																						
5	<p>Proposed resources</p> <p>1. Project Director</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects</td> <td>2.5</td> </tr> <tr> <td>Graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects</td> <td>1.5</td> </tr> <tr> <td>Post graduate / graduate having 12 years or less experience in Large scale Emergency response services or IT system integration projects</td> <td>1</td> </tr> </tbody> </table> <p>2. Project Manager for 108 ERS</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC</td> <td>2</td> </tr> <tr> <td>Graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC</td> <td>1</td> </tr> <tr> <td>Post graduate / graduate having 10 years or less experience in handling large projects + minimum 5 years of experience related to ERC</td> <td>0.5</td> </tr> <tr> <td>PMP or Prince 2 certification</td> <td>0.5</td> </tr> </tbody> </table> <p>3. Project Manager for 104 services</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 12 years of total experience in handling large projects +</td> <td>2</td> </tr> </tbody> </table>	Description	Marks	Post graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects	2.5	Graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects	1.5	Post graduate / graduate having 12 years or less experience in Large scale Emergency response services or IT system integration projects	1	Description	Marks	Post graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC	2	Graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC	1	Post graduate / graduate having 10 years or less experience in handling large projects + minimum 5 years of experience related to ERC	0.5	PMP or Prince 2 certification	0.5	Description	Marks	Post graduate with 12 years of total experience in handling large projects +	2	<p>CVs of the personnel that will be evaluated</p> <ol style="list-style-type: none"> 1 Project Director 2 Project manager for 108 services 3 Project manager for 104 services 4 Supervisor for 108 services 5 ERCP for 108 services 6 Project manager for IT 7 Solution Architect including DC, DR 8 Application Solution Architect
Description	Marks																							
Post graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects	2.5																							
Graduate with 15 years of total experience and minimum 8 years of experience in Large scale Emergency response services or IT system integration projects	1.5																							
Post graduate / graduate having 12 years or less experience in Large scale Emergency response services or IT system integration projects	1																							
Description	Marks																							
Post graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC	2																							
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PMP or Prince 2 certification	0.5																							
Description	Marks																							
Post graduate with 12 years of total experience in handling large projects +	2																							

S. No	Eligibility	Documents Required
	minimum 5 years of experience related to ERC or Health advisory	
	Graduate with 12 years of total experience in handling large projects + minimum 5 years of experience related to ERC or Health advisory	1
	Post graduate / graduate having 10 years or less experience in handling large projects + minimum 5 years of experience related to ERC or Health advisory	0.5
	PMP or Prince 2 certification	0.5
4. Supervisors for 108 services		
	Description	Marks
	Post graduate with minimum 5 years of experience in ERC or similar projects	2.5
	Post graduate with minimum 5 years of experience in ERC or similar projects	1.5
	Post graduate / graduate having less than 5 years of experience ERC or similar projects	1
5. ERCP for 108 services		
	Description	Marks
	Master's degree in psychology /Clinical Psychology with more than 5 years of experience and minimum 2 years of experience in ERC	2.5
	Master's degree in psychology /Clinical Psychology with less than 5 years of experience and minimum 2 years of experience in ERC	1.5
	Master's degree in psychology /Clinical Psychology with less than 5 years of experience and no experience in ERC	1

S. No	Eligibility	Documents Required																		
	<p>6. Project Manager – IT</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 12 years of total experience in application development and technology operations and having minimum 5 years of experience in managing applications related to ERC or similar projects</td> <td>2</td> </tr> <tr> <td>Graduate with 12 years of total experience in application development and technology operations and having minimum 5 years of experience in managing applications related to ERC or similar projects</td> <td>1</td> </tr> <tr> <td>Post graduate / graduate having 10 or less than 10 years of experience in application development and technology operations and less than 5 years of experience in managing applications related to ERC or similar projects</td> <td>0.5</td> </tr> <tr> <td>PMP or Prince 2 certification</td> <td>0.5</td> </tr> </tbody> </table> <p>7. Solution Architect including DC, DR</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 10 years of experience in Data center solutions and hands on experience in implementing at least 2 projects related to emergency response centers</td> <td>2.5</td> </tr> <tr> <td>Graduate with 10 years of experience in Data center solutions and hands on experience in implementing at least 2 projects related to emergency response centers</td> <td>1.5</td> </tr> <tr> <td>Post graduate / Graduate with less than 10 years of experience in Data center solutions and no hands-on experience in implementing projects related to emergency response centers</td> <td>1</td> </tr> </tbody> </table>	Description	Marks	Post graduate with 12 years of total experience in application development and technology operations and having minimum 5 years of experience in managing applications related to ERC or similar projects	2	Graduate with 12 years of total experience in application development and technology operations and having minimum 5 years of experience in managing applications related to ERC or similar projects	1	Post graduate / graduate having 10 or less than 10 years of experience in application development and technology operations and less than 5 years of experience in managing applications related to ERC or similar projects	0.5	PMP or Prince 2 certification	0.5	Description	Marks	Post graduate with 10 years of experience in Data center solutions and hands on experience in implementing at least 2 projects related to emergency response centers	2.5	Graduate with 10 years of experience in Data center solutions and hands on experience in implementing at least 2 projects related to emergency response centers	1.5	Post graduate / Graduate with less than 10 years of experience in Data center solutions and no hands-on experience in implementing projects related to emergency response centers	1	
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S. No	Eligibility	Documents Required														
	<p>8. Application Solution Architect</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Post graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solutions for at least in 2 emergency response centers</td> <td>2.5</td> </tr> <tr> <td>Graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solution for at least in 2 emergency response centers</td> <td>1.5</td> </tr> <tr> <td>Post graduate / graduate having less than 10 years of experience in application development / solution architect and no hands-on experience in emergency response centers</td> <td>1</td> </tr> </tbody> </table>	Description	Marks	Post graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solutions for at least in 2 emergency response centers	2.5	Graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solution for at least in 2 emergency response centers	1.5	Post graduate / graduate having less than 10 years of experience in application development / solution architect and no hands-on experience in emergency response centers	1							
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Post graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solutions for at least in 2 emergency response centers	2.5															
Graduate with 10 years of experience in application development / solution architect and hands on experience in implementing solution for at least in 2 emergency response centers	1.5															
Post graduate / graduate having less than 10 years of experience in application development / solution architect and no hands-on experience in emergency response centers	1															
6	<p>Technical proposal and presentation covering</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>Technology architecture</td> <td>12</td> </tr> <tr> <td>Detailed Project Plan</td> <td>5</td> </tr> <tr> <td>Manpower plan (recruitment, training, deployment, replacement etc.)</td> <td>4</td> </tr> <tr> <td>IT Maintenance and troubleshooting ERC, SERC and Field level</td> <td>3</td> </tr> <tr> <td>Integration with field technology, Ambulance providers and service providers</td> <td>3</td> </tr> <tr> <td>SLA Compliance ERC, SERC, Ambulance</td> <td>3</td> </tr> </tbody> </table>	Description	Marks	Technology architecture	12	Detailed Project Plan	5	Manpower plan (recruitment, training, deployment, replacement etc.)	4	IT Maintenance and troubleshooting ERC, SERC and Field level	3	Integration with field technology, Ambulance providers and service providers	3	SLA Compliance ERC, SERC, Ambulance	3	Technical presentation
Description	Marks															
Technology architecture	12															
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IT Maintenance and troubleshooting ERC, SERC and Field level	3															
Integration with field technology, Ambulance providers and service providers	3															
SLA Compliance ERC, SERC, Ambulance	3															

6.3 Evaluation of the proposal

- A. Three stage evaluation will be taken up for identification of successful bidder
 - a. Pre-qualification
 - b. Technical Evaluation
 - c. Financial Evaluation
- B. Bidders who fulfill pre-qualification criteria (first stage) will be considered for technical evaluation. All other bids will be rejected.

6.3.1 Evaluation of Technical proposal

- a. Technical evaluation of bids (second stage) will be done as per the criteria mentioned in Section 6.2
- b. The bidder should score at least 70 marks to be qualified technically. Based on this technical evaluation, a list of short-listed applicants shall be prepared.
- c. The bidders who are technically qualified will be eligible for financial evaluation.

6.3.2 Evaluation of financial proposal

In the third stage, the financial evaluation will be carried out. Bidder shall enter the Total of Capex and Opex for each year, in the table format provided in Section 10.18.1. Client would evaluate the total cost of Capex and Opex mentioned in the table and subsequently apply the Present Value (PV) method while factoring a discount rate of 10% to decide the lowest cost across bids (Cmin). The lowest cost bid (Cmin) will be given a financial score (SF) of 100 points. The financial scores of other proposals would be determined proportionately and computed as follows:

$$SFb = 100 \times Cmin / Cb \text{ (where } Cb = \text{Price quoted by the Bidder under consideration)}$$

6.3.3 Quality and Cost based evaluation of proposal

The bidder will be selected based on Quality and Cost based selection (QCBS), with 70% weightage for Technical score and 30% for financial score

The following formula shall be used for calculating the scores:

- i. $Bb = 0.70 * Tb + (0.30) * (SFb)$ Where,
- ii. Bb = overall score of bidder under consideration (calculated up to two decimal points)
- iii. Tb = Technical score for the Bidder under consideration
- iv. Cb = Price quoted by the Bidder under consideration
- v. Cmin= Lowest price among the financial proposals under consideration

- a. The Bidder achieving the highest overall score (Bb) will be invited for negotiations for awarding the Contract.
- b. In case of a tie where two or more Bidders achieve the same highest overall score, the Bidder with the higher technical score will be invited first for negotiations for awarding the Contract. In case of a tie on the technical scores and highest overall scores, the Bb will be calculated up to three decimals and the Bidder with higher Bb will be invited for negotiations for awarding the Contract.
- c. The second ranked Applicant shall be kept in reserve and may be invited by Authority at its discretion for negotiations in case the first-ranked Applicant withdraws or fails to execute contract or initiate work within stipulated timelines, as the case may be.

7. Instructions to the bidder

7.1 Bid validity period

The Bids shall remain valid for 180 days from the date of submission and the prices quoted shall remain for the duration of the agreement. The Client may request for further extension as deemed fit and the Bidder is required to send intimation of acceptance or otherwise of request for extension within seven days of issue of such request.

7.2 Number of proposals

A Bidder is eligible to submit only one proposal

7.3 Cost of proposal

The Bidders shall be responsible for all costs associated with preparation of their Proposals and their participation in the selection process. The Client will not be responsible, nor in any way liable for such costs, regardless of the conduct or outcome of the Selection Process.

7.4 Acknowledgement by Applicant

It shall be deemed that by submitting the Proposal, the Applicant has:

- a) Made a complete and careful examination of the RFP;
- b) Acknowledged that it does not have a Conflict of Interest; and
- c) Agreed to be bound by the undertaking provided by it under and in terms hereof.

7.5 Conflict of interest

A. A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified.

- B. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
- a. directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - b. receives or has received any direct or indirect subsidy from another Bidder; or
 - c. has the same legal representative as another Bidder; or
 - d. has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Client regarding this bidding process; or
 - e. participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved.
 - f. any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
 - g. Or any of its affiliates has been hired (or is proposed to be hired) by the Client in implementing Agency Agreement.
 - h. Has a close business or family relationship with a professional staff of the Client who
 - i. are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or
 - ii. would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Client throughout the procurement process and execution of the contract

7.6 Clarifications

Bidders requiring any clarification on the RFP may send their queries to the Authority in writing (by post or e-mail) before the date mentioned in the BDS.

The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring the Authority to respond to any question or to provide any clarification.

7.7 Amendments / Modifications

- a) At any time prior to the deadline for submission of Proposal, the Authority may, for any reason, whether at its own initiative or in response to clarifications requested by the Bidder, modify the RFP document by the issuance of Modified RFP / Addendum/ Corrigendum / Amendment through posting it only on its Website or eProcurement portal.

- b) All such amendments/modified RFP will be posted only on the eProcurement website and shall not be published in any newspaper and will be binding on all Bidders.
- c) In order to afford the Bidders a reasonable time for taking an amendment into account, or for any other reason, the Client may, in its sole discretion, extend the Proposal Due Date.

7.8 Preparation and submission of proposal

7.8.1 Language of Bid

The Proposal, with all accompanying documents (the “Documents”) and all communications in relation to or concerning the Selection Process shall be in English language, and strictly submitted based on the forms provided in this RFP. No supporting document or printed literature shall be submitted with the Proposal unless specifically asked for and in case any of these documents is in another language, it must be accompanied by an accurate translation of the relevant passages in English, in which case, for all purposes of interpretation of the Proposal, the translation in English shall prevail.

7.8.2 Format and signing of proposal

The Bidder shall provide all the information sought under this RFP. The Client would evaluate only those proposals that are received in the specified forms and complete in all respects.

The proposal shall be typed and signed by the authorized signatory of the Bidder / Lead Bidder, who shall initial each page. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialed by the person(s) signing the Proposal. The Proposals must be properly signed by a duly authorized person holding the Power of Attorney (the “Authorized Representative”).

A copy of the Power of Attorney certified under the hands of a director of the Bidder or a notary public on the specified form shall accompany the Proposal.

7.8.3 Technical proposal

- a. Bidders shall upload the technical proposal in the formats at Bid forms 10.11 (the “Technical Proposal”).
- b. Failure to comply with the requirements shall make the Proposal liable to be rejected.
- c. The Technical Proposal shall not include any financial information relating to the Financial Proposal.
- d. The Authority reserves the right to verify all statements, information and documents, submitted by the Bidder in response to the RFP. Failure of the Authority to undertake

such verification shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the Client there under.

7.8.4 Financial proposal

Bidders shall upload the financial proposal in the format mentioned in bid forms (the "Financial Proposal") clearly indicating the total cost of the supply in both figures and words, in Indian Rupees, and signed by the Applicant's authorized signatory. In the event of any difference between figures and words, the amount indicated in words shall be taken into account.

While submitting the Financial Proposal, the Bidder shall ensure the following:

- a) All the costs associated with the assignment shall be included in the Financial Proposal. The total amount indicated in the Financial Proposal shall be without any condition and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.
- b) The Financial Proposal shall take into account all expenses and tax liabilities including Tax. For the avoidance of doubt, it is clarified that all taxes shall be deemed to be included in the costs shown under different items of the Financial Proposal. Further, all payments shall be subject to deduction of taxes at source as per applicable laws.
- c) Costs shall be expressed in INR.

7.9 Submission of proposal

The proposal submission shall be as per the e-procurement process.

7.9.1 Proposal due date

The Proposal due date is listed in the Bid Data Sheet. The Authority may, in its sole discretion, extend the Proposal Due Date by issuing a Corrigendum in accordance with Clause 7.7.

7.9.2 Late proposals

Proposals received by the Authority after the specified time on Proposal Due Date shall not be eligible for consideration and shall be summarily rejected.

7.9.3 Bid fees and Earnest Money Deposit

- (a) The Bid shall be accompanied by Non-refundable Tender Cost, Earnest Money Deposit (EMD) as specified BDS, in the form of Bank Draft / Bank Guarantee from any Schedule Bank in favour of MD, Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC), Government of AP payable at Vijayawada

- (b) No Bidding entity is exempted from deposit of EMD. Bids submitted without EMD shall be not considered.
- (c) The EMD of unsuccessful Bidder will be returned to them without any interest, after conclusion of the resultant agreement. The EMD of the successful Agency will be returned without any interest, after receipt of performance security as per the terms of agreement.
- (d) EMD of Bidder may be forfeited without prejudice to other rights of the Authority, if the Bidder withdraws or amends its Bid or impairs or derogates from the Bid in any respect within the period of validity of its Bid, or if it comes to notice that the information / documents furnished in its Bid is incorrect, false, misleading or forged. In addition to the aforesaid grounds, the successful Bidder's EMD will also be forfeited without prejudice to other rights of the bidder, if he fails to furnish the required performance security within the specified period.

7.9.4 Fraud and Corrupt Practices

The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, Authority shall reject a Proposal without being liable in any manner whatsoever to the Applicant, if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process.

Without prejudice to the rights of Authority under the clause hereinabove and the rights and remedies which Authority may have under the LOA, if an Applicant, as the case may be, is found by Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOA, such Applicant or Consultant shall not be eligible to participate in any tender or RFP issued by Client during a period of 3 (three) years from the date such Applicant, as the case may be, is found by Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

- i. "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process.
- ii. "fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

- iii. “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;
- iv. “undesirable practice” means
 - a. establishing contact with any person connected with or employed or engaged by Client with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or
 - b. having a Conflict of Interest; and
- v. “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

7.9.5 Confidentiality

Information relating to the examination, clarification, evaluation, and recommendation for the selection of Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional adviser advising the Authority in relation to or matters arising out of or concerning the Selection Process. The Authority will treat all information, submitted as part of the Proposal, in confidence and will require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/or the Authority

7.9.6 Clarifications

To facilitate evaluation of Proposals, the Authority may, at its sole discretion, seek clarifications from any Bidder regarding its Proposal. Such clarification(s) shall be provided within the time specified by the Authority for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.

If a Bidder does not provide clarifications sought under Sub-Clause mentioned above within the specified time, its Proposal shall be liable to be rejected. In case the Proposal is not rejected, the Authority may proceed to evaluate the Proposal by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of the Authority.

7.9.7 Clients Right to accept/reject any proposal or all proposals

The Authority reserves the right to accept or 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 or bidders or any obligation to inform the affected bidders or bidders of the grounds for the Authority’s action.

7.10 Award of Contract

7.10.1 Notification of Award

Prior to the expiry of the period of Bid validity prescribed by the Authority, the Authority will notify the successful bidder in writing, that the Bid has been accepted. This letter (hereinafter and in the Conditions of Contract called "Notification of Award"/"Letter of Award") shall name the sum which the Client will pay to the Agency in consideration of the execution, completion and maintenance of the Work by the Agency as prescribed by the Contract (hereinafter and in the Conditions of Contract called the "Contract Price"). Within 5 days of receipt of the "Notification of Award"/"Letter of Award" the successful bidder shall sign and return a copy of the same to the Procurer as acknowledgement of receipt of the same.

7.10.2 Signing of contract

After acknowledgement of the LOA by the Selected Bidder and submission of Performance Security as per section 9.2, it shall execute the Agreement within a fortnight from the date of issuance of LOA. The Selected Bidder shall not be entitled to seek any deviation in the Agreement. If the Selected Bidder fails to sign the Agreement within the stipulated time, his performance security shall be forfeited and appropriated by the Client. In such an event, the Client may invite the next ranked Bidder for negotiations and may issue LOA to him.

7.10.3 Disqualification of the bidder

- a) Any misrepresentation / improper response may lead to the disqualification of the Bidder.
- b) In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence thereof, that one or more of the eligibility conditions have not been met by the Bidder, or the Bidder has made material misrepresentation, or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Agency either by issue of the LOA or entering into of the Agreement
- c) If the Bidder has already been issued the LOA or has entered into the Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by the Client without the Client being liable in any manner whatsoever to the Applicant, as the case may be. In such an event, the Client shall forfeit and appropriate the performance Security and also pre-estimated compensation and damages payable to the Client as mutually agreed for, inter alia, time, cost and effort of the Client without any other right or remedy that may be available to the Client

8. General Conditions of Contract

8.1 Definitions

- a. **“Bidder”** shall mean organization or consortium submitting the proposal in response to this RFP.
- b. **“Contract or Agreement”** means the Agreement entered into between the Client and the selected bidder or Agency, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- c. **“Contract Documents”** means the documents listed in the Contract Agreement, including any amendments thereto.
- d. **“Contract Price”** means the price payable to the Agency as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- e. **“Day”** means calendar day.
- f. **“Completion”** means the fulfillment of the Related Services by the Agency in accordance with the terms and conditions set forth in the Contract.
- g. **“Client”** means the entity purchasing the Services.
- h. **“Agency”** means the bidder who is selected by the Client at the end of this RFP process. The agency will carry out all the services mentioned in the scope of work of this RFP.
- i. **“Go- live”** means commissioning of project after installation of all hardware, software, deployment of manpower including training as per scope of work for ERC, SERC and DC, DR, Ambulances, MMUs and other locations as mentioned in the RFP document. Bidder should have the approval from Client for user acceptance testing. Client should be able to perform all the operations from their defined location for emergency response services.

8.2 Interpretation

In this Contract unless a contrary intention is evident

- a. the word “include” or “including” shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- b. unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;

- c. a word in the singular includes the plural and a word in the plural includes the singular

8.3 Relationship between the parties

Nothing in the Contract shall be deemed to constitute a partnership between the Parties or to constitute either Party as the agent of the other.

8.4 Law Governing the Contract

The Contract shall be governed by and interpreted in accordance with the laws of India.

Any dispute or claim or cause of action arising out of or in connection with this Contract shall be subject to the Jurisdiction of Courts at Vijayawada. The laws of the State of Andhra Pradesh and India shall apply to any such proceeding arising out of or in connection with this agreement.

8.5 Language

The language for communication shall be English, unless otherwise modified by the Client

All bids, responses, communications, reports and recommendations given by the Agencies / bidders under these GCC shall be in “English”.

8.6 Notices

Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the Special Conditions of Contract. The term “in writing” means communicated in written form with proof of receipt.

A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

8.7 Taxes and Duties

1. All the Bidders are requested to familiarize themselves with the laws, rules and regulations prevailing in India and consider the same while developing and submitting their Proposal.
2. All Goods & Services tax (GST), customs duties, excise duties and other levies payable by the Agency on goods, equipment, components and any other items used for their consumption or dispatched directly to Client by the Agency or their sub-Agency shall be included in the bid price and any such taxes, duties, levies additionally payable will be to Client’s account and no separate claim on this account will be entertained by the Client.

3. The Agency shall be liable and pay all non-Indian taxes, duties, levies, lawfully assessed against the Client or the Agency in pursuance of the Contract, if applicable. Tax liability, if any, on Agency's personal income & property shall be borne by the Agency and shall be the responsibility of the Agency as per Tax Laws of India.
4. Client shall be entitled to deduct applicable tax (if any) at source as per Indian Laws from all payments due to the Agency under the contract.
5. If any rates of taxes/duties/levies (hereinafter called 'Tax') are increased or decreased, a new Tax is introduced, an existing Tax is abolished or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Agency in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made fully taken into account any such change by addition to the Contract Price or deduction there from, as the case may be.

8.8 Effectiveness of Contract

This Contract shall come into force and effect on the date (the "Effective Date") of the Client's notice to the Agency instructing the Agency to begin carrying out the Services.

8.9 Agency's Obligations

Agency's obligations shall include all activities as specified by Authority in the Scope of Work and other sections of the RFP and Contract and changes thereof, to enable Client to meet the objectives and operational requirements.

8.9.1 Related to Ambulance Integrator, MMU Integrator and Service Provider

- a) It will be the Agency's responsibility to ensure the proper and successful implementation, performance and continued operation of the proposed solution and operation of the in-fleet equipment in Ambulances and MMUs in accordance with and in strict adherence to the terms of his Bid, the Tender and this Contract.
- b) Selected Agency shall be responsible on an ongoing basis for coordination with other vendors and agencies of the client / department in order to resolve issues and oversee implementation of the same.
- c) The Selected Agency shall provide services to manage and maintain the said infrastructure along with manpower provided at all sites as mentioned in Section 5 scope of work of this RFP document

8.9.2 People related

- a) Agency shall be responsible to ensure compliance to all statutory obligations in respect of the staff engaged or deployed by him under the contract (including Payment of minimum wages, ESIC Contribution, PF etc.). In case of any upward/downward changes in the

minimum wages/ DC rates and its cascading impact on other statutory compliances like PF, ESI, etc. during the contract period, the Client shall reimburse/recover the difference in amount.

- b) Selected Agency shall be responsible to provide manpower to operationalize ERC at Mangalagiri and SERC at Tirupati. It is the Agency's responsibility to provide adequately trained manpower suitable to perform the project. It is the Agency's responsibility to provide regular trainings to the deployed manpower. The Selected Agency shall also be responsible to provide transportation facilities as required to all the Communication Officers across 3 shifts at ERC and SERC.
- c) Selected Agency will be responsible for payment of all statutory levies including ESIC Contribution, PF etc. in respect of the staff engaged or deployed by him under the contract. This should comply to all statutory obligations.
- d) Selected Agency shall also maintain adequate contracted strength 'on panel' to enable meeting the replacement or substitution and additional resource requirements within the time period specified in SLAs for such replacements or substitution at all locations.
- e) Client reserves the right to interview the personnel proposed that will be deployed as part of the project team. If found unsuitable, the Client may reject the deployment of the personnel. But ultimate responsibility of the project implementation shall lie with the Selected Agency.
- f) Client reserves the right to change the personnel which shall be communicated to the Selected Agency. The Selected Agency with the prior approval of the Client may make additions to the project team. He/They shall provide the Client with the CVs of Key Personnel and provide such other information as may reasonably be required. The Client also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, the Selected Agency shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members. Selected Agency shall always be the Principle Employer for outsourced manpower.
- g) The Selected Agency shall ensure that none of the Key Personnel (refer Clause 5.8 of Section 5 of this RFP) proposed and manpower, exit from the project during first 3 months or till go-live of the project, if Letter of Intent (LoI) is issued within 3 months of bid submission.
- h) The minimum salaries (CTC) to be paid to staff of Agency for the following roles shall be as follows:
 - I. Communication Officer / Information Officer: Rs 15,000 per month
 - II. Dispatch Officer: Rs 18,000 per monthAgency must suitably factor in a reasonable yearly increment as well throughout the term of the project.
- i) The Selected Agency shall ensure that the deployed team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. The Selected Agency shall ensure that the services are performed through the efforts of the deployed team, in accordance with the terms hereof and to the satisfaction of the Client. Nothing in this Contract relieves the

Agency from its liabilities or obligations under this Contract to provide the Services in accordance with the Client directions and requirements and as stated in this Contract and the Bid to the extent accepted by the Client and the Selected Agency shall be liable for any non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.

- j) In case of change in its team members, the Selected Agency shall ensure a reasonable amount of time overlap in activities to ensure proper knowledge transfer and handover or takeover of documents and other relevant materials between the outgoing and the new member.
- k) The Selected Agency should submit profiles of only those resources who will be deployed on the project. Any change of resource should be approved by the Client and compensated with equivalent or better resource. The Client may interview the resources suggested by the Agency before their deployment on board. It does not apply in case of change requested by the Client.

8.9.3 Spares and Warranty

- a) Selected Agency shall ensure that the Annual Maintenance support for all the components is provided till the end of the contract. The Selected Agency shall ensure that there is a comprehensive onsite warranty or support arrangement for the entire contract period with all the component manufacturers.
- b) Selected Agency shall provision the required extra or buffer critical spares or components at the designated Client office locations in each District in order to ensure that the Ambulances and MMUs adhere to the response times as envisaged through the system.
- c) Selected Agency shall provision the required critical spares or components at the designated Data center Sites or office locations of the Client for meeting the uptime commitment of the components supplied by him.

8.9.4 Solution / Technology related

- a) Selected Agency shall ensure that the system software licenses mentioned in the Bill of Material (BoM) shall be genuine, perpetual, full use and should provide updates, patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of the Client.
- b) Selected Agency shall be fully responsible for deployment or installation or development and integration of all the software and hardware components and resolve any problems or issues that may arise due to integration of components.
- c) The selected Agency shall be responsible for providing the perpetual licenses so as to maintain the IPR and source code (customized/ extension) with the Client.
- d) All the licenses and support should be in the name of Client.
- e) Selected Agency shall ensure that the OEMs supply equipment or components including associated accessories and software required and shall support the Selected Agency in the installation, commissioning, integration and maintenance of these components during the entire period of contract. The Selected Agency shall ensure that the COTS OEMs supply the software applications and shall support in the installation or deployment, integration, roll-out

and maintenance of these applications during the entire period of contract. It must clearly be understood by the Selected Agency that warranty and AMC of the system, products and services incorporated as part of system would commence from the day of Go-Live of system as a whole. However, Given the complexity of the project, the Client may decide to give a provisional Go-live depending on the completion of the core and critical functionalities/ components required for the commissioning of the project as envisaged in the RFP

- f) The Selected Agency would be required to explicitly display that he or they have a back to back arrangement for provisioning of warranty or AMC support till the end of contract period with the relevant OEMs. The annual maintenance support shall include patches and updates the software, hardware components and other devices.
- g) All the software licenses that the Agency proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the Client should have the flexibility to use the software licenses for other requirements if required.
- h) The Client reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between the Selected Agency and OEMs and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the Client. An executed copy of each of such agreements/contracts shall, immediately upon execution be submitted by the Selected Agency to the Client.
- i) The Selected Agency shall ensure that none of the components and sub- components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products or solutions end- of-sale subsequently, the Selected Agency shall ensure that the same is supported by the respective OEM for contract period.
- j) If a product is de-supported by the OEM for any reason whatsoever, from the date of Acceptance of the System till the end of contract, the Selected Agency should replace the products/ solutions with an alternate that is acceptable to the Client at no additional cost to the Client and without causing any performance degradation.
- k) Selected Agency shall ensure that the OEMs provide the support and assistance in case of any problems or issues arising due to integration of components supplied by him with any other component(s) or product(s) under the purview of the overall solution. If the same is not resolved for any reason whatsoever, the Selected Agency shall replace the required component(s) with an equivalent or better substitute that is acceptable to Client without any additional cost to the Client and without impacting the performance of the solution in any manner whatsoever
- l) Selected Agency shall ensure that the OEMs for hardware servers / equipment supply and/or install all type of updates, patches, fixes and/or bug fixes for the firmware or software from time to time at no additional cost to the Client.
- m) The Selected Agency shall ensure that the OEMs for hardware servers or equipment or Selected Agency's trained engineers conduct the preventive maintenance on a Quarterly basis and break-fix maintenance in accordance with the best practices followed in the industry.
- n) The Selected Agency shall ensure that the documentation and training services associated with the components shall be provided by the OEMs without any additional cost to the Client.

- o) The Agency and their personnel or representative shall not alter or change or replace any hardware component proprietary to the Client and/or under warranty or AMC of third party without prior consent of the Client.
- p) The Agency's representative(s) shall have all the powers requisite for the execution of scope of work and performance of services under this contract. The Agency's representative(s) shall liaise with the Client representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. The Selected Agency will extend full co-operation to Client representative in the manner required by them for supervision or inspection or observation of the equipment or goods or material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of the Agency's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Service Providers or Vendors of the Client working at the Client office locations and field locations and DC sites. Such Agency's representative(s) shall be available to the Client Representative at respective Data center during the execution of works.
- q) The Selected Agency shall be responsible on an ongoing basis for coordination with other vendors and agencies of the Government of Andhra Pradesh in order to resolve issues and oversee implementation of the same. The Selected Agency shall also be responsible for resolving conflicts between vendors in case of borderline integration issues.
- r) The Agency and their personnel or representative shall not delete, alter or change any data in the system or database for the entire period of the contract. Any such need to delete the data requires prior consent from the Client.
- s) The Agency should have a local office in Vijayawada or should furnish an undertaking that the same would be established within one month of Lol / signing the contract in Andhra Pradesh, if project is awarded.

8.10 Reporting obligations

The Agency shall ensure that information, records and documentation necessary to monitor the agreement are maintained and are available at all times to the Client or its authorized representative. The Agency hereby agrees that his and all his/her staff shall at all times co-operate with reasonable processes of the Client for monitoring, evaluation and carrying out quality audit and financial audit by any third party authorized by Client.

The Agency further agrees to maintain confidentiality of data and records and commits that such data and records will not be shared with any third party for any purpose.

8.11 Intellectual Property Rights

- 8.11.1** The Selected Agency must ensure that while using any software, hardware, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person or Company. The Selected Agency shall keep the Client indemnified against all costs, expenses and liabilities howsoever, arising out of any illegal or unauthorized use (piracy) or in connection with any claim or proceedings

relating to any breach or violation of any permission / license terms or infringement of any Intellectual Property Rights by the Selected Agency or its Team during the course of performance of the Services. The Selected Agency's liability is excluded regarding any claim based on any of the following

- a. anything Client provides which is incorporated into the Solution;
- b. the Client modification of the solution;
- a. the combination, operation, or use of the solution with other materials, if the third-party claim has been caused by the combination, operation or use of the solution

8.11.2 Client shall own and have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to all processes, products, specifications, reports and other documents which have been newly created and developed by the Selected Agency solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract. The Selected Agency undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the Client, execute all such agreements or documents and obtain all permits and approvals that may be necessary in regard to the Intellectual Property Rights of the Client.

8.11.3 Notwithstanding the above, it is agreed that nothing contained herein above shall be applicable to Agency's pre-existing materials and working papers (i.e. Materials owned by the Agency which were created and developed prior to this Agreement without direct reference to the deliverables under this Agreement) which may now be incorporated by the Agency into the final deliverables/reports or the like, supplied to the Client hereunder in the course of delivering Services pursuant to this Agreement. However, in the event any such pre-existing material is used in the deliverables/reports provided to the Client by the Agency, the Agency hereby agrees to grant the Client an irrevocable, non-transferable, non-exclusive, paid-up, royalty free and perpetual license to use such pre-existing material as it exists in the deliverable/ reports prepared by the Agency as a part of this Agreement."

8.11.4 If Client desires, the Selected Agency shall be obliged to ensure that all approvals, registrations, licenses, permits and rights etc. which are inter-alia necessary for use of the goods supplied / installed by the Selected Agency, the same shall be acquired in the name of the Client, prior to termination of this Contract and which may be assigned by the Client to the Selected Agency for the purpose of execution of any of its obligations under the terms of the Bid, Tender or this Contract. However, subsequent to the term of this Contract, such approvals, registrations, licenses, permits and rights etc. shall endure to the exclusive benefit of the Client.

8.11.5 The Selected Agency shall not copy, reproduce, translate, adapt, vary, modify, disassemble, decompile or reverse engineer or otherwise deal with or cause to reduce

the value of the Materials except as expressly authorized by Client in writing.

8.12 Termination of Contract for failure to become effective

If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as shall be specified in the SCC if any, either Party may, by not less than four (4) weeks' written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto

8.13 Expiration of Contract

Unless terminated earlier pursuant to Clause 8.18 here of, this Contract shall terminate at the end of such time period after the Effective Date as shall be specified in the Agreement.

8.14 Entire Agreement

This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

8.15 Modifications

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties and shall not be effective until the consent of the Client, as the case may be, has been obtained. Each Party shall give due consideration to any proposals for modification made by the other Party.

8.16 Force Majeure

1. Force Majeure means any circumstances beyond the control of the parties, including but not limited to:
 - a) war and other hostilities, (whether war be declared or not), invasion, act of foreign enemies, mobilization, requisition or embargo;
 - b) ionizing radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosives, or other hazardous properties of any explosive nuclear assembly or nuclear components thereof.
 - c) rebellion, revolution, insurrection, military or usurped power and civil war;
 - d) riot, commotion or disorder, except where solely restricted to employees of the Contractor.

2. The performance of the obligations of the Affected Party shall be suspended for the duration of an event of Force Majeure. Upon cessation of an event of Force Majeure, these GCC shall against become fully operative and the Affected Party shall immediately resume its performance.
3. If the suspension of performance continues for more than 30 (thirty) consecutive calendar days, then Client may immediately terminate these GCC by written notice to the Agency

8.17 Suspension

The Client may, by a notice in writing suspend the agreement if the Agency fails to perform any of his obligations, provided that such notice of suspension-

- a) Shall specify the nature of failure, and
- b) Shall request remedy of such failure within a period not exceeding 15 days after the receipt of such notice.

8.18 Termination

The Client after giving 30 days clear notice in writing expressing the intention of termination by stating the ground/ grounds on the happening of any of the events (i) to (iv), may terminate the agreement after giving reasonable opportunity of being heard to the Agency

- a) If the Agency does not remedy a failure in delivery of his obligations within 15 days of receipt of notice or within such further period as the Client have subsequently approved in writing.
- b) If the Agency becomes insolvent or bankrupt.
- c) If, in the judgment of the Client the Agency is engaged in corrupt or fraudulent practices in competing for or in implementation of the project.

8.19 Arbitration

If any dispute arises in relation to the application or interpretation of any provision of the contract or both, the parties shall resolve it in accordance with the following procedures mutually agreed upon under the contract: -

- a) through mutual agreement between the contracting parties; or
- b) if the dispute is not resolved under clause (a), through a neutral expert mediator; or
- c) if the dispute is not resolved under clause (b), through arbitration between the contracting parties.

- d) Work / Services to Continue Performance of the contract shall continue during arbitration proceedings unless the Client shall order suspension. If any such suspension is ordered, the reasonable costs incurred by the Client and occasioned thereby shall be added to the Contract Price. No, payments due or payable by the Client shall be withheld because of pending reference to arbitration.

8.20 Venue of Arbitration:

The venue of arbitration shall be Vijayawada

8.21 Valuation on Date of Termination

The Client shall, as soon as possible after such termination, certify the value of the works and all sums then due to the Agency as on the date of termination.

8.22 Payment after Termination

The Client shall not be liable to make any further payments to the Agency until the Works / Services have been completed. When the Works / Services are so complete, the Client shall be entitled to recover from the Agency the extra costs, if any, of completing the Works / Services after allowing for any sum due to the Agency under clause 8.19 (Arbitration). If there is no such extra cost the Client shall pay any balance due to the Contractor.

In case Authority administering this assignment decides to discontinue the project for any reason, the payment of the Agency shall be restricted up to the stage the services have been provided by the Agency based on satisfactory performance.

8.23 Ownership and Transfer of ownership

The Products / Services developed by Agency for Client (the "Work Product") (including any inventions or discoveries arising from the Client know-how provided to Agency to develop the Client products hereunder) and the Client design shall be the exclusive property of Client and all right, title and interest in and to the Work Product shall vest solely with Client.

Agency upon termination or end of contract period pursuant to clause 8.12, 8.13 and 8.18, hereby agrees to transfer and assign to Client, all right, title, and interest, of the work product including the product design (and any improvements or modifications thereto), any and all Software, Hardware, Licenses, Deliverables of the work product.

For the avoidance of doubt, Work Product does not include any Intellectual Property Rights that Agency may at any time have or acquire in or to its general know-how and manufacturing process of the Products.

8.24 Effect on Liability for Delay

The Agency's liability shall immediately cease when the Client expels him from the Contract without prejudice to any liability there under that may have already occurred.

8.25 Agency's Default

Notice of default if the Agency is not performing the duties in accordance with the Contract or is neglecting to perform his obligations there under so as to seriously affect the programme for carrying out of the services, the Client may give notice to the Agency requiring him to make good such failure or neglect.

8.25.1 Nature of Agency's Default

If the Agency:

- A. has failed to comply within a reasonable time with a notice
- B. assigns the Contract or sub-contracts the whole of the Works without the Client's written consent or
- C. becomes bankrupt or insolvent and has a receiving order made against him or compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors or goes into liquidation.

The Client may, after giving 15 days' notice to the Agency, terminate the Contract and expel the Agency. Any such expulsion and termination shall be without prejudice to any other rights of powers of the Client, or the Agency under the Contract.

8.26 Confidentiality

The Agency either during the term or within two (2) years after the expiration of this Contract, should not disclose any proprietary or confidential information relating to the Services, this Contract or the Client's business or operations without the prior written consent of the Client.

8.27 Use of contract documents and Information

The Agency shall not without the Client's prior written consent, disclose the contract or any provision thereof or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Client in connection therewith to any person other than a person employed by the supplier in performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

The Agency shall not, without the Client's prior written consent make use of any document or information enumerated in the above para except for purposes of performing the contract.

Any document other than the contract itself enumerated in the first para of this clause shall remain the property of the Client and shall be returned (in all copies) to the Client on completion of the Agency's performance under the contract if so required by the Client.

9. Special Conditions of Contract

9.1 Mobilization advance

The Agency shall be given mobilization advance for an amount equivalent to the performance security taken from the Client. This mobilization advance shall be given after the receipt of performance security.

9.2 Performance Security

- a) Within 15 days after the Agency's receipt of Notification of Award, the Agency shall furnish Performance Security to the Client for an amount of 10% of the contract value, valid up to 90 days after the date of completion of performance obligations including warranty obligations.
- b) In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value shall be extended 90 days over and above the extended warranty period.
- c) The Performance Security will be discharged and returned to the Agency not later than 60 days following the date of completion of the Agency's performance obligations, including any warranty obligation, under the contract.

9.3 Schedule

The basic consideration and the essence of the Contract shall be the strict adherence to the schedule specified in the bidding documents and incorporated in the Contract for services.

9.4 Access to Agency's Premises

The Client and/or his authorized representative shall be provided access to Agency's and or its premises, at any time during the pendency of the contract.

9.5 Inspection – Checking - Testing

The ERC / SERC would be inspected by the Client or his authorized representative at the time of launch for conformity with the SLAs.

9.6 Maintenance Services

The Agency must attend all the complaints if any during the period without any additional cost.

9.7 Rejection of Services

If upon launch, whether inspected and approved earlier or otherwise, if service is not in conformity with the SLAs, the same shall be disallowed by the Client or his duly authorized representative and notification to this effect will be issued to the Agency.

9.8 Compliance of regulations

The Agency shall warrant that all goods and services covered by the Work Order have been delivered, tested and installed and are in strict compliance with all applicable laws, regulations and technical codes and requirements as applicable from time to time. The Agency should execute and deliver such documents as may be needed by the Client in evidence of compliance. All laws and regulations required to be incorporated by the Work Order are hereby deemed to be incorporated by this reference. Any liability arising out of contravention of any of the laws in executing the order shall be the sole responsibility of the Agency.

9.9 Insurance

The Agency, at its cost, shall arrange, secure and maintain all insurance as may be pertinent and obligatory in terms of law to protect his interest and interests of the Client against all perils. The insurance covers to be taken by the seller / manufacturer shall be in the name of Client. The Agency shall however be authorized to deal directly with the insurance company.

The insurance required to be taken by Agency shall cover all risks including war, strike, riots and civil commotion etc. Notwithstanding the extent of insurance cover the amount of claim available from the underwriters and the time at which claim is available from the under underwriters, the Agency shall be liable to make good the full availability as per Client's requirements.

9.10 Sub-Letting

The Agency shall not sub-let, transfer or assign any part of this order without the prior written consent of the Client. Copies of sub-contract order shall be forwarded to the Client.

9.11 Terms of payment

- a) Client will make the payment for CAPEX as below after necessary certification. (Cert- IN certified Security audit certificate).

Sl. No	Activity	Payment	Milestone / Approval
1	Mobilization Advance	10%	On submission of unconditional Bank guarantee of equivalent amount
2	On receipt at site (H/W, S/W, components etc.)	50%	Verification by the Client
3	On system integration which includes installation, commissioning, testing	20%	Verification by the client through test reports such as performance test, test cases etc. External agency certifications for security audit such as certificate by CERT-IN certified security audit etc.
4	Go-Live	20%	Approval by the Client

- b) To facilitate this, the Agency will submit invoices with all documents in support of his/her claims upon actual delivery. Based on such invoices, the Client agrees to transfer the amount electronically to the Agency's bank account within fifteen days from submission of invoices.
- c) The OPEX amount shall be paid by the Client shall be paid on a Quarterly basis as per the amount quoted by the Agency in their financial proposal in each year. Any clarifications to the bills submitted will be sought within 7 working days of receipt of bills and payment will be released within 15 working days after receipt of clarifications so sought from the vendor
- d) Both parties agree that the payment arrangements as quoted by the Agency in its bid against this tender enquiry and / or subsequent bid submitted by it as a result of negotiations shall be adhered to.
- e) The Client or any other agency, as per existing rules of the Government, will have the right to examine the invoices as required under relevant rules. If such examination reveals any extra payment already provisionally made, the extra amount will be adjusted from the payment due to the Agency under intimation to him/her.

9.12 Client Audit

The Agency hereby agrees to maintain all required books of accounts and agrees to provide them to such audit as may be required to be carried out.

9.13 Patent Rights

The Agency shall indemnify the Client against all third-party claims of infringement of patent and rights arising from use of any hardware or software in India.

9.14 Change in number of personnel shall not be change of scope

Notwithstanding anything said elsewhere in this Agreement, modifications in the number of personnel shall not be construed as change in scope. Authority shall modify the payment to the Agency on pro-rata basis in case of any change in the number of personnel proposed by the Client.

9.15 End of service period (Contract Expiry Date)

The contract expiry date is 7 years from the date of signing the contract i.e.

9.16 Service Level Agreements (SLA) and Penalties

9.16.1 SLA Supervision

The Client will review the performance of the selected Agency against the SLA at any given time or duration. The supervision report about the performance of any Services pursuant to this SLA by the selected Agency or any other agency as appointed by Client shall form the basis for imposing Damages/ penalties for breach of contract. The results of said review will be shared by Client with the selected Agency. Client reserves the right to appoint a third-party auditor/ agency to validate the Deliverables under this SLA. Based on the instructions of the Client, the findings of the third-party auditor/ agency shall be accepted and addressed by the Agency with the consultation of the Client.

9.16.2 SLA & Penalty

The SLA specifies the expected levels of service (i.e. baseline service level) to be provided by the successful agency to the various stakeholders. Payment to the successful agency is linked to the compliance with the SLA metrics laid down in the table provided subsequently. The table also specifies the limits and metrics for lower / higher performance and breach levels.

A summarized metrics of the above-mentioned SLA parameters is provided in the table below and detailed out subsequently.

Successful agency will get 100% of payment if the baseline performance metrics are complied with (and if no additional penalties are imposed as specified in the RFP). The successful agency will get lesser payment in case of a lower performance on any parameter.

S. No	Measurement	Target	Penalty
Commencement of work			
1.	Submission of performance bank guarantee after issuance of Lol or notification of award by APMSIDC	a. After 15 days and before 30 days	Forfeiture of EMD
		b. After 30 days	Cancellation of award of notification
2.	Team mobilization and commencement of work	Deployment of all Key Personnel for ERC and SERC (as per the RFP) within 30 calendar days from the date of signing of contract or issuance of Lol, whichever is earlier. None of the Key Personnel of proposed manpower against should exit from the project during first 6 months of the beginning of the project, if Letter of Intent (Lol) is issued within 4 months of bid submission. Even same resource cannot be arranged/adjusted against different profile.	Delay beyond 7 calendar days = 0.1% of the contract value Delay beyond 8-15 calendar days = 0.2% of the contract value Delay beyond 15 days may lead to Termination of the Contract at the discretion of the Client. In case of replacement of resources a penalty of INR 2 lakhs shall be imposed per replacement
Setup of DC, DR, ERC and SERC			
3.	Installation and commissioning of hardware components including local servers, routers, switches, security components and all other hardware required at DC and DR	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay

S. No	Measurement	Target	Penalty
4.	Supply and installation of core hardware and software components of ERC and SERC and its applications.	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay
Setup of Equipment including Network and Security for Ambulances and MMUs			
5.	Functional and Integration testing of all equipment including network, security for MDT, AVLS/GPS and CCTV Cameras in 108 Ambulance and 104 MMU's with ERC and SERC	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay
Training and deployment of manpower at DC, DR and ERC			
6.	100% deployment of trained manpower at ERC and SERC	As per timelines agreed between Client and SI for deployment of manpower	10% of the monthly cost of the staff for deficit manpower for per week of delay
Go Live			
7.	Go Live for all locations travelling by 108 Ambulance and 104 MMU's	As per timelines defined in RFP	0.1% of the milestone value for per week of delay

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
1	Availability of equipment: - IP Phones - Workstations / Desktops - Gateways	All equipment's should be available 24*7 and any complaint should be resolved within 2 hrs. Equipment should be replaced or repaired	Monthly	>=99.8% availability	-
				>= 99.5% to <99.8% availability	0.2% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
	(Prior approval from the client is a must for any maintenance activity)	after complaint logging by Client Measurement Tool: Reports from EMS			per each incident
				<99.5% availability	1% of Total Quarterly payment per each incident
Availability of DC and DR components					
2.	Availability of each servers at DC & DR: - Application server - Database server (Not attributable to SDC)	Uptime = {1 - [(server downtime- Maintenance Downtime) / (Total Time – Maintenance Downtime)]} Each server violation will be measured separately through NMS tool.	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	0.2% of Total Quarterly payment per each incident
				<99.5%	1% of Total Quarterly payment per each incident
3.	Availability of the ERC and SERC solutions i.e. CAD solution, IPPBX, ACD, CTI, GIS and other relevant	Uptime = {1 - (Application downtime maintenance downtime) / (Total Time – maintenance downtime)} Measurement Tool: Reports from NMS	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	0.2% of Total Quarterly payment per each incident

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
	component of these solution.			<99.5%	1% of Total Quarterly payment per each incident
4.	Availability of the following solutions / applications: <ul style="list-style-type: none"> • E-Learning / Training application • HRMS • BI Reporting and analytics • Citizen App • SMS Gateway • Management System etc. 	Uptime = {1 (Application downtime maintenance downtime) / (Total Time – maintenance downtime)} Measurement Tool: Reports from EMS	Monthly	>= 98%	-
				>= 95% to <98%	0.1% of Total Quarterly payment per each incident
				<95%	0.5% of Total Quarterly payment per each incident
5.	DR Drill	Bidder shall conduct DR drills every six months and/or as per the requirement of Client	Half yearly	100% as per schedule and/or request from Client	-
				For any violation of the DR policy.	0.5% of Total Quarterly payment per each incident
Manpower Availability					

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
6.	Availability of all resources at designated ERC and SERC as per requirement defined in the RFP and as proposed by the Agency and agreed by the Client	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100 Measurement Tool: Biometric Attendance Reports	Monthly	Monthly >= 95% -	-
				>=90 % to < 95%	0.5% of Total Quarterly payment per each incident
				< 90 %	2% of Total Quarterly payment per each incident
	Availability of the Attendance report of the Service providers of Ambulances and MMUs	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100 Measurement Tool: Biometric Attendance Reports	Monthly	Monthly >= 96%	-
				>=95 % to < 96%	0.1% of Total Quarterly payment per each incident
				< 95 %	1% of Total Quarterly payment per each incident
Maintenance of ERC and SERC premises					
7.	Maintenance, repair and replacement of Furniture at ERC as per scope	Repair or replacement of the damaged furniture Client inspection and reporting	Monthly	>= 90% of issues to be analyzed and resolved in 3	0.1% of Total Quarterly payment per each incident

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
				business days	
				<90 %	0.1% of Total Quarterly payment per each incident
8.	Cleaning & Maintenance Cafeteria items like Water purifier & cooler, Drinking water facility, Rodent repellent as per scope of ERC	Drinking water and cafeteria inspection shall happen at any fixed schedule in a month and Client will log complaint for any issue related to water facilities Cafeteria will be inspected and problems will be reported by the Client	Monthly	>= 90% of issues to be analyzed and resolved in 1 business day	0.1% of Total Quarterly payment per each incident
				<90 %	0.1% of Total Quarterly payment per each incident
Call Handling					
	Average amount of time to respond to the call. This includes the amount of time caller waits in a waiting queue ASA to be reviewed on a monthly basis.	Average Speed to Answer (ASA) System generated reports to be considered to review the ASA	Monthly	>=98% of the calls to be attended within 5 seconds	-
				>=96% and <98% of the calls to be attended within 5 seconds	0.001% of Total Quarterly payment per each incident

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
				<96% of the calls to be attended within 5 seconds	0.002% of Total Quarterly payment per each incident
	Average Handle Time (AHT) refers to the time taken to manage a call and initiate dispatch of Ambulance. AHT shall be calculated as the sum of average talk time, hold time and transfer of calls to dispatch officer and initiate the dispatch of the ambulance.	Average Handle Time (AHT) Compliance Inbound Actionable Calls, against which event is created Reports to be taken by SLA monitoring tool or reports generated by SI.	Monthly	AHT of 3 to 3.5 Minutes	-
AHT of >3.5 to 4 Minutes				0.001% of Total Quarterly payment per each incident	
AHT > 4 Minutes				0.002% of Total Quarterly payment per each incident	
SLA Reports for monitoring Service Providers					
	Reports of the SLA adherence of the Service Providers shall be made available through System generated reports to the Client	System generated reports	Monthly	Monthly >= 96%	-
				>=95 % to < 96%	0.1% of Total Quarterly payment per each incident
				< 95 %	1% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
					per each incident

In case of any unplanned downtime due to any reason whatsoever, the problem shall be rectified within a span of 30 mins.

9.17 Other Conditions

9.17.1 Site visit by Bidders

- a. The bidders are required to visit the APIIC premises at Mangalagiri, Guntur district to assess the actual sizing and the BOM requirements before submitting the bid against this RFP.
- b. The BOM provided at the section 5.10 of this document is indicative. It is the Bidders responsibility to assess and provide additional requirements, if any. Any hardware requirements / equipment which is essential for the functioning of the ERC and SERC and missed out by the bidder as part of their bid, shall be provided to the client with no additional cost.

9.17.2 Change Requests

- a. No change requests is permitted during the contract period. The selected agency shall provide all requirements at no additional cost.

10. Bid Forms

10.1 Pre-qualification Checklist

Sr. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance	Reference & Page Number
1.	<p>The responding firm / agency</p> <p>a. Should have made a payment of Rs. << Enter the amount>> (Rupees <<Enter amount in words>> only) for the RFP document</p> <p>b. Should have submitted the EMD of Rs. << Enter the amount>> (Rupees <<Enter amount in words>> only)</p>	<p>a. DD for Rs. << Enter the amount>></p> <p>b. The original bank guarantee must be furnished in the format prescribed 'Bid form 10.6'</p>	Yes / No	
2.	<p>Legal Entity</p> <p>a. Company should be registered under Companies Act, 1956 / 2013 or Society registered under Society Registration Act 2001</p> <p>b. Should have registered with GST Authorities</p> <p>c. Bidder must have a registered office for doing business in India for a period of at least last 5 years as on March 31, 2019</p>	<p>a. Copy of Certificate of Incorporation / Society Registration Certificate</p> <p>b. Copy of GST Registration Certificate</p> <p>c. Details of the responding firm 'Bid Form 10.3'</p>	Yes / No	

Sr. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance	Reference & Page Number
3.	The Bidder should have an Average Annual Turnover during last three financial years should be 10 Crore or more from Call Centre Businesses related to emergency response and health advisory including Telecom & IT system integration and maintenance services	<ul style="list-style-type: none"> a. Annual Turnover and Net worth details of the responding firm certified by Chartered Accountant as per 'Bid Form 10.9' b. Memorandum & Articles of Association should be attached confirming Area of activity c. Audited Balance Sheet / Annual Reports and Profit & Loss account statements for last three years should be attached 	Yes / No	
4.	Bidder should not have been terminated / blacklisted / banned by any Central / State Government agencies in India	<ul style="list-style-type: none"> a. Letter of Proposal 'Bid Form 10.3' b. Self-declaration that the organization / firm is not blacklisted by any Government Organization – 'Bid Form 10.5' 	Yes / No	
5.	Bidder should have successfully implemented and currently running at least one emergency response / health advisory ERC project within the last 3 years	<ul style="list-style-type: none"> a. Project Citation for at least 1 project supported with Work order and Proof of Go-live / Project completion certificates from client in Emergency Response or Health advisory ERC project b. 'Bid Form 10.6' 	Yes / No	
6.	The Net Worth of the responding firm must be positive as per the last audited Balance Sheet.	<ul style="list-style-type: none"> a. Chartered Accountant Certificate for Net worth as per 'Bid Form 10.9' 	Yes / No	

10.2 Technical Qualification Checklist

S. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance	Reference & Page Number
1	The Bidder should have been awarded at least two (02) project in the last 5 years (as on bid submission date) in India related to Emergency Response Services (Police, Medical, Fire, Disaster etc.)	<p>a. Project Citation for at least 2 projects supported with Work order and Proof of Go-live / Project completion certificates from client related to Emergency Response Services (Police, Medical, Fire, Disaster etc.)</p> <p>b. 'Bid Form 10.10'</p>	Yes / No	
2	<p>The bidder should have at least 100 inbound voice Call Centre seats operational at a single location in India as on date of bid submission.</p> <p>Or</p> <p>The bidder should have at least 50 inbound voice Call Centre seats operational at Two locations in India as on date of bid submission.</p>	<p>a. Project Citation with Work Order / Contract highlighting the relevant pages of the document.</p> <p>b. 'Bid Form 10.10'</p>	Yes / No	
3	<p>The bidder should have successfully implemented stack of solution(s) for performing Emergency response services in India. The proposed solution should have ERC solution integrated with GIS solution, AVLS, MDT and functionalities as below</p> <ol style="list-style-type: none"> 1 Call Management 2 Dispatch management 3 Fleet Management (preventive, major and minor repairs) 4 Dial and Call Logger 	<p>a. Letter from the authorized signatory of the OEM along with the copy of relevant pages of the report</p> <p>b. Documentary evidence from bidder / OEM (Copy of Client certificate or Purchase order or Contract)</p> <p>c. Documentary evidence highlighting</p>	Yes / No	

S. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance	Reference & Page Number
	5 Live Tracker using AVL solution 6 Inventory Management 7 HR Management 8 SLA Monitoring of Vehicles Providers / Service provider at field 9 Analytics and dashboards 10 Feedback from citizens The project should also cover end-to-end setup including Hardware, Networking, Software IT applications etc.	the features of the solution implemented d. Proof of implementation of functionalities through client certification. e. 'Bid Form 10.11.1'		
4	The proposed ERC solution should have been implemented in minimum one project handling over 20,000 calls per day in India in last 3 years. The project should be operational as on date of bid submission.	a. Documentary evidence from bidder b. Copy of Client certificate and evidence of call logs report highlighting the relevant pages of the document	Yes / No	
5	Proposed Resources for the ERC 1. Project Director 2. Project manager for 108 services 3. Project manager for 104 services 4. Supervisor for 108 services 5. ERCP for 108 services 6. Project manager for IT 7. Solution Architect including DC, DR 8. Application Solution Architect	a. CVs of the personnel to be deployed b. 'Bid Form 10.13'	Yes / No	
6	Technical proposal covering the understanding of the	a. 'Bid Form 10.11'	Yes / No	

S. No	Qualification Criteria	Documents / Information to be provided in the submitted proposal	Compliance	Reference & Page Number
	scope, proven experience and track record, proposed solutions and applications stack, technology architecture, similar implementations etc.			

10.3 Letter of Proposal

(To be submitted by Bidder on Letterhead)

Date:

To
Managing Director
APMSIDC
2nd Floor, PHYCARE Building
Plot No. 9, APIIC IT Park
Autonagar, Mangalagiri,
Andhra Pradesh

RFP Ref:

RFP Name: Selection of Agency to establish and operate Emergency Response Center in
Andhra Pradesh

Dear Sir,

- 1) All information provided in the Proposal and in the Appendices, is true and correct and all documents accompanying such Proposal are true copies of their respective originals.
- 2) I/We shall make available to the Client any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
- 3) I/We acknowledge the right of the Client to reject our Proposal without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
- 4) I/We to the best of our knowledge certify that in the last three years, we or any of our Associates have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.
- 5) I/We understand that you may cancel the Selection Process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Supplier, without incurring any liability to the Bidders
- 6) I/We to the best of our knowledge certify that, we or any of our Associates have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.
- 7) I/We to the best of our knowledge further, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.

- 8) I/We agree and understand that the Proposal is subject to the provisions of the RFP document. In no case, shall I/We have any claim or right of whatsoever nature if our Proposal is not opened or rejected.
- 9) I/We agree to keep this offer valid for 180 days from the Proposal Due Date specified in the RFP.
- 10) Performance Security: If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
- 11) All the statements made and information furnished in the application and the enclosures are true and correct.
- 12) We have furnished all information and details necessary for RFP and have no further pertinent information to supply (unless specifically asked for by the APMSIDC at a later stage).
- 13) We agree that the MD, APMSIDC or their authorized representatives can undertake verification of the documents submitted by us in response to this RFP.
- 14) We submit certificates and documents in support of our suitability, technical knowhow and capability for having successfully providing the required supply of the tools / implements, in prescribed format.
- 15) We agree to provide any additional information as requested by APMSIDC towards the evaluation of our application.
- 16) I/We agree and undertake to abide by all the terms and conditions of the RFP Document. In witness thereof, I/We submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully

Place:

()

Date: Signature of authorized signatory

Designation and Official seal

10.4 Details of the bidder / responding firm

Date of this Bid submission: **DATE, time and place to be inserted**

RFP No.: **RFP number to be inserted**

Item	Details	Supporting Documents
1. Name of the Company:		
2. Registered Office:		
3. Date of Incorporation:		
4. Name of the MD / CEO		
5. Constitution of the Bidder Company:		
6. Core business activities:		
7. Number of years in business:		
8. Worldwide presence:		
9. Presence in India:		
10. PAN No		
11. GSTIN		
12. Authorized Contact Person Name		
13. Landline No.		
14. Fax No.		
15. Website Address		

Item	Details	Supporting Documents
16. Total no. of employees:		
17. Number of projects in Emergency Response services		

Name:

Designation:

Contact tel. No:

Mobile no.:

Fax no.:

Email ID Postal address:

(Signature of Authorized signatory)

10.5 Declaration that the bidder is not blacklisted

(To be submitted on the Letterhead of the bidder)

{Place}

{Date}

To,
The Managing Director
APMSIDC
2nd Floor, PHYCARE Building
Plot No. 9, APIIC IT Park
Autonagar, Mangalagiri,
Andhra Pradesh

Ref: RFP Notification no <xxxx> dated <dd/mm/yy>

Subject: Self Declaration of not been blacklisted in response to the RFP for “Selection of Agency to establish and operate Emergency Response Center in Andhra Pradesh”

Dear Sir,

We confirm that our company, _____, is not blacklisted in any manner whatsoever by any of the Central Government / State Government / PSU / Parastatal agencies in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

Place:

Date:

Bidder's Company Seal:

Authorized Signatory's Signature:

Authorized Signatory's Name and Designation:

10.6 Project experience format – Pre-Qualification

Assignment name	
Country	
Location within the country	
Contract Value	
Start/Completion Date	
Duration of assignment	
Name and Address of the Client	
Description of services provided	

Please include additional table for each project. Kindly provide supporting documents such as contract / work order / completion certificate copy etc. for each of the projects.

10.7 Format of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

Beneficiary: *[Client to insert its name and address]*

RFP No.: *[Client to insert reference number for the Request for Proposals]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of _____ under Request for Proposals No. _____ ("the RFP").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of INR _____ (Rupees _____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of Bid validity set forth in the Applicant's Covering Letter ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) Having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to sign the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.
- (c) The APMSIDC will have the right to inform the bank regarding the penalties and revoke the bank guarantee

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[Signature(s)]

10.8 Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Date of this Bid submission: DATE, time and place to be inserted

RFP No.: RFP number to be inserted

To: The **Managing Director, APMSIDC, 2nd Floor, PHYCARE Building, Plot No. 9, APIIC IT Park, Autonagar, Mangalagiri, Andhra Pradesh**

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of equipment manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* for the "Selection of Agency to establish and operate Emergency Response Center in Andhra Pradesh"

S. No	Name of the Equipment	Specifications

We also confirm that the equipment adhere to the standards as mentioned in the technical specifications, Bill of Quantities of this RFP.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

10.9 Turnover and Net Worth Details Certified by Chartered Accountant

We have verified the Audited Financial Statements and other relevant records of M/s..... (Name of the Agency) and certify the following:

A. AUDITED ANNUAL TURNOVER OF LAST 3 FINANCIAL YEARS:

Year	Amount (INR)
2018-19	
2017-18	
2016-17	

B. NETWORTH AS ON 15th October 2019

Description	Amount (INR)
Net Worth	

It is further certified that the above mentioned applicable figures are matching with the returns filed with Registrar of Companies (ROC)

Name of Audit Firm: [Signature of Authorized Signatory]

Chartered Accountant/CPA Name:

Date: Designation:

Seal: Membership No.:

Note: This certificate is to be submitted on the letter head of Chartered Accountant

10.10 Project experience format – Technical Qualification

Assignment name	
Country	
Location within the country	
Contract Value	
Start/Completion Date	
Duration of assignment	
Name and Address of the Client	
Description of services provided	

Please include additional table for each project. Kindly provide supporting documents such as contract / work order / completion certificate copy etc. for each of the projects.

10.11 Technical Proposal

Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present Approach and Methodology divided into the following sections:

- a) Understanding of the project (how the solution proposed is relevant to the understanding)**
- b) Technical Approach and Methodology**
- c) Technology architecture**
- d) Detailed Project Plan**
- e) Manpower plan (recruitment, training, deployment, replacement etc.)**
- f) IT Maintenance and troubleshooting ERC, SERC and Field level**
- g) Integration with field technology, Ambulance providers and service providers**
- h) SLA Compliance ERC, SERC, Ambulance**
- i) All forms to be submitted as part of technical proposal**

10.11.1 Functional Requirements Compliance

Functional requirements compliance as per section 5.4 for all COTS products proposed as part of the solution

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
1.	Caller Information Location and automatic display of information	<ul style="list-style-type: none"> a) Solution should have a provision to display the real time location of the mobile caller as per the information provided by telecom service provider or by performing manual search on the map. b) Solution should have a feature to automatically display the nearest hospital, police station, blood bank etc. with geo-fencing capabilities. 		
2.	Call Classification, Priority and update	<ul style="list-style-type: none"> a) Solution should have a feature such that the CO can classify the call into distress call, enquiry call, blank call, prank call etc. and assign priority to the calls received b) Solution should have a feature to update the information of an incident, close the incident etc. 		
3.	Call referencing	<ul style="list-style-type: none"> a) Solution should have the feature to cross reference the incident based on the caller location, number, time, incident etc. 		
4.	Multiple Calls & Incidents	<ul style="list-style-type: none"> a) Solution should be able to handle multiple calls and multiple incidents 		
5.	Call Recordings	<ul style="list-style-type: none"> a) Solution should have a feature to record and tag an incident with the below features. 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		<ul style="list-style-type: none"> i. Date and time stamp of all calls ii. Caller Location, Incident type and other relevant data etc. iii. Solution should have a feature to playback the entire incident end to end such that it is useful for trainings and other demonstrations. 		
6.	Caller History, Create Emergencies and Alarms	<ul style="list-style-type: none"> a) Solution should have a feature to view caller's history including the crank callers. However, the solution should have a facility to track repeat call and create an emergency such as fatalities, accidents, major injuries etc. b) Solution should have a feature to create alarms to all Cos / Dos / Supervisors based on emergencies. 		
7.	Standard Operating Procedures (SOPs) and predefined scripts	<ul style="list-style-type: none"> a) Solution should have a feature to create SOP for Cos / Dos and Supervisors. b) Solution should have a feature to configure pre-defined scripts for Cos to capture the details comprehensively 		
8.	Status Display & Search	<ul style="list-style-type: none"> a) Solution should have a feature to display the status of all incidents such as dispatched, closed etc. 		
9.	Location Search Option	<ul style="list-style-type: none"> a) Solution should have a feature to search various locations of an incident such as nearest Hospital, Blood bank etc. 		
10.	Information from the CO	<ul style="list-style-type: none"> a) Solution should allow seamless information flow including voice 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		and data including location of the caller, caller details, incident details etc. from the CO to DO screen		
11.	Dispatch of the ambulance and communication with MDT	<ul style="list-style-type: none"> a) Solution should have a feature to automatically display the nearest ambulances for dispatch to the incident location. b) Solution should represent the allocated, un-allocated ambulances as per the status available, enroute etc. c) Solution should allow the DO to indicate and communicate with MDT on shortest path and directions to reach the incident location 		
12.	Caller History	<ul style="list-style-type: none"> a) Solution should have a feature to view caller's history including the crank callers. However, the solution should have a facility to track repeat call and create an emergency such as fatalities, accidents, major injuries etc. 		
13.	Updates on an incident and guidance	<ul style="list-style-type: none"> a) Solution should have a feature to update on a particular incident including the report from the field responding unit b) Solution should display real-time status of the ambulance from dispatch to arrival at the incident location and automatically update the incident. c) Solution should have a feature playback the history data 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
14.	Call Recordings	a) Caller conversation should be recorded and tagged with the concerned event. The call should be recorded for the desired period.		
15.	SLA monitoring	a) Solution should have a feature to setup SLA for each action and record each incident against the pre-defined SLA.		
16.	Call back feature	a) Solution should be user-friendly with a Call back button on screen for DOs to reach back to the caller as per details recorded.		
17.	Conference calling	a) Solution should be able to create a conference between any of the stakeholders such as ERCP, Supervisor, EMT, DO, Arogyamithra etc.		
18.	Design & Architecture, Customization	a) Solution design should support complete ERC operations including call taking & dispatching, communications aspect etc. b) Solution should be based on SOA and should be scalable to accommodate future requirements		
19.	Security and Interoperability	a) Solution should be secure and support all features relevant to ERC operations b) Solution should be flexible to assign multiple roles to the users without having a need for additional licenses.		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
20.	Multi-channel support	a) Solution should allow users to reach the ERC through multiple channels including email, social media, instant messaging, through picture images from smart phones etc.		
21.	GIS Map	a) Solution should be integrated with advanced GIS functionality such as Google maps to ensure end to end ERC operations.		
22.	Automatic Vehicle Location System (AVLS) integration	a) Solution should be integrated with the AVLS software to facilitate data communication link with the vehicle mounted location tracking devices (GPS) with navigation facility for vehicles. b) Solution should have facility to poll information from each vehicle to transmit its current positional information. c) Solution should provide the facility to dynamically place the ambulances in the basis of "hot – spots" historical data of incidents on the basis of the time of day/night etc.		
23.	Location based services	a) Solution should able to track the location of the caller automatically		
24.	Message services integration	a) Solution should have message software that shall provide the ability to send/receive messages in a centralized and distributed mode. The solution should also be able to receive query/messages from AVLS /		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		CAD client applications & distribute them to other AVLS client applications based on a user configurable set of rules. b) The Message solution should support centralized logging of relevant ERC and SERC AVLS / CAD related message communications.		
25.	Multi-monitor	a) The solution should support Multi-monitor displays. There should be three monitors for each CO / DO for viewing Application GUI & GIS map respectively.		
26.	Multiple Map Windows	a) The solution should have a provision to open multiple map windows for easy decision-making.		
27.	Floating Windows	a) The solution should have floating windows capability i.e. the operator should be able to shift/ position & resize the window form as per his requirement or similar operational functionality		
28.	Messaging /SMS Interface	a) Solution should be able to send message between ERC officers using intranet.		
29.	Configurable, Template based messaging	a) Solution should be capable of, in a pre- defined template, sending SMS to the caller and/or Mobile Response Teams. SMS can be triggered manually at the discretion of the user or automatically as per a pre-defined procedure configured in the system.		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
30.	User Friendliness	<ul style="list-style-type: none"> a) The application GUI should be user friendly for ease of operation and keeping in mind the response time to attend to emergency. b) Solution should have a comprehensive inbuilt Help file with user friendly search facility and/or tagging. 		
31.	Call Management for Duplicate Calls	<ul style="list-style-type: none"> a) Solution should alert the Communication Officer, Dispatch Officer and, supervisor about the possibility of a single incident – multiple call situation or a multiple incident – multiple call situation. 		
32.	Video / CCTV Surveillance Interface	<ul style="list-style-type: none"> a) Solution should have provision to integrate with video feeds available from MDT, CCTV camera and laptops fitted inside the ambulances / MMU vehicles. b) Solution should be able to see the video of cameras installed and mapped on to the GIS map. 		
33.	MDT / Smartphone Interface	<ul style="list-style-type: none"> a) Solution should have integration with Mobile Data Terminal / commercially available Smartphone. 		
34.	Multi-Agency Support	<ul style="list-style-type: none"> a) Solution should have capability to support multiple agencies like Police, Fire, Electricity, Irrigation, Agriculture, Rail, Highway etc. b) Solution should have provision to register the contact number and resource available with various departments. 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
35.	Multi –Language	a) Solution should be able to support multi-languages. It should be possible to easily switch between Local Languages i.e. Telugu, Hindi and English.		
36.	Emergency Number Setup	a) Solution should have provision to setup Emergency help line number in case of any emergency. b) The solution should be able to carve out a small team of call receivers and Dispatch Officers, within the software, dedicated for handling calls received on such special emergency numbers. c) In case of emergency, solution should have provision to configure some agent in the software to handle such situations.		
37.	IP-Phone communication	a) Solution should have the ability for audio communication between senior officers and CAD / Mobile Units by IP- Phone.		
38.	Login	a) Role based access should be available for EMT with associated features		
39.	Functions	a) Solution should support all 108 ambulances b) Should be equipped with suitable device(s) that perform functions like Voice Communication, Transmit the location and direction of the vehicle to the CAD solution, Transmit and receive data.		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
40.	Event Information	<ul style="list-style-type: none"> a) The Dispatch Officer should be able to dispatch all relevant data related to the distressed / patient including the location information and other necessary information to the MDT. b) MDT should have the provision for the pilot to accept the information sent by the DO. c) The pilot should be able to perform suitable action d) MDT should show the number of events present in the list. e) It should have a provision to view notification pop-up for new events. f) It should provide the option to view historical events. g) Patient personal information, address, pickup point, drop point, phone, date, locality etc. should be available for further validation. h) The EMT should be able to update the status based on action taken on event and update the status like Accepted, Ambulance Move Time, At-scene, Departure from Scene, Reached and Handover at Hospital, Event Closure. i) The EMT should be able to update the health status of the patient in the ambulance using the Application. j) Map view shall show the caller location and EMT / Pilot should be able to locate the caller and 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		also navigate to the incident location k) MDT should be able to capture details such as Image / Audio / Video / instructions. l) Call facility to operator and patient / caretaker. m) Option to view ERCP advise.		
41.	Patient Care Form	a) EMT should be able to update initial assessment, pre-hospital care given, medicines given, vitals, ERCP advice, Consent Form etc.		
42.	Event monitoring	a) Solution should facilitate supervision of the operations. The supervisor should be able to examine each event and ensure appropriate action. b) The Supervisor should be able to call up the caller for feedback and a satisfaction report. c) The supervisor should have the provision for the functionalities of both Communication & Dispatch Officer.		
43.	Route creation & assignment of routes	a) The solution should have the provision of tools for creation of digitized vehicle routes (daily, weekly etc.) and assign one or more vehicles to these pre-defined routes along with check points.		
44.	Reports	a) The solution should have built-in Reporting module. The reporting module should have an ability to		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		create various reports using various options like date wise, zone wise, event type, sub type etc.		
45.	System settings	<ul style="list-style-type: none"> a) The Supervisor should be able to undertake various system settings & configuration such as: <ul style="list-style-type: none"> i. Allotment of Telephone Extension number ii. Screen Setting (Single, Dual & Triple), Map Path Setting, CCTV camera icon display on GIS Map. 		
46.	Unlock of event	<ul style="list-style-type: none"> a) The Supervisor should be able to unlock the assigned event in process and reassign to another DO / ambulance to take further action. b) Similarly, the DO should have the capability to reassign the incident to any other ambulance 		
47.	Group action	<ul style="list-style-type: none"> a) The Supervisor should be able to configure / create the response plan based on Incident type so as to direct multiple ambulances to a particular location. 		
48.	Call to Ambulance	<ul style="list-style-type: none"> a) The ERCP should be able to call and reach out to the EMT in the ambulance to provide necessary advice. b) ERCP should be able to view the patient condition either through photographs or through a live feed from MDT / CCTV camera 		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
49.	Advice to EMT	a) ERCP module should be able to receive the patient status from the EMT in the ambulance, based on that the ERCP will decide the best possible first aid to the patient.		
50.	Initial Assessment & stabilization	a) ERCP should have the relevant call details as captured by the CO, DO, other details captured in the MDT, photographs / video etc. for undertaking initial assessment.		
51.	Call Conferencing	a) Call conferencing capability should be available. ERCP should remain connected with the ambulance EMTs through the call handling process for clinical assistance.		
52.		b)		
53.		c)		
54.		d)		
55.	Monitoring	a) Solution should support monitoring of all events, critical functionality such as vehicles fleet monitoring, reports, charts & analysis etc.		
56.	Live vehicle tracking	a) Solution should support live vehicle tracking of the response units with details.		
57.	Play back history	a) Solution should view vehicle history data of the ambulances with details. The software should be capable of showing the		

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
		vehicle idle time, ignition on/off plus alert etc.		
58.	Geo-fencing	b) Solution should have Geo-fencing capability. Software should facilitate allocating of areas for Field responding units as a prescriptive measure. However, such Geo-fencing feature should not act as a restrictive measure for exceptional situations.		
59.	Reports	a) Solution should have in built reporting module. The reporting module should have ability to create various reports using various options like date wise, zone wise, event type, sub type etc.		
60.	Analysis	a) Solution should have an ability to create various GIS analysis reports. It should be possible to select the data on the basis of zones, events, event sub- type, priority & date and time etc.		
61.	Vehicle dashboard	a) Solution should have inbuilt dashboard to view the performance and health check of GPS devices fitted in the ambulances.		
62.	Component Functionality: <Component Functionality Description>			
63.	<Functional Requirement 1>			
64.	<Functional Requirement 2>			
65.	.			
66.	.			

S. No.	Functional Requirements	Solution feature	Compliance Y/N	Remarks *Please refer to the Note below
67.	<Functional Requirement n>			
68.	Additional Component if any			

Note: In case the proposed COTS product doesn't have the necessary functions as mentioned in the functional requirements, the bidder shall indicate in the remarks column on the methodology to meet the requirement. For those functional requirements which are non-complaint, the bidder should use the following key words – 'Bespoke development' / 'customization' / 'configuration'.

10.11.2 Bill of Material Compliance for Infrastructure

BoM compliance as per section 5.8

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks	
Infrastructure at Data Center									
1.	Server for CAD Solution	2	Form Factor	1U or above					
2.			Processor	Intel Xeon 64 bit or equivalent					
3.			Processor Base Frequency	2.1 GHz or higher					
4.			No. of cores per processor	Minimum 8 core or higher					
5.			Processor Socket Support	Two Socket Server					
6.			RAM	Minimum 64Gb					
7.			Storage	3*900 Gb SAS or SSD Drives					
8.			Network Interface			Minimum 4 x 1Gbps port per server			
9.						FC HBA 8 Gig card			
10.					Power Supply	Redundant and Hot-swappable			

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks		
11.	Server for GIS Solution	2	Operating system	Licensed version of 64bit latest version Operating system						
12.			Anti-Virus	To be provided						
13.			Form Factor	1U or above						
14.			Processor	Intel Xeon 64 bit or equivalent						
15.			Processor Base Frequency	2.1 GHz or higher						
16.			No. of cores per processor	Minimum 8 core or higher						
17.			Processor Socket Support	Two Socket Server						
18.			RAM	Minimum 128 Gb						
19.			Storage	3X600 Gb SAS Drives						
20.			Network Interface	Minimum 4 x 1Gbps port per server						
21.					FC HBA 8 Gig card					
22.			Power Supply	Redundant and Hot-swappable						
23.			Operating system	Licensed version of 64bit latest version Operating system						
24.			Anti-Virus	To be provided						
25.			Server for Location Based Services (LBS) and AVLS Solution Database	2	Form Factor	1U or above				
26.					Processor	Intel Xeon 64 bit or equivalent				
27.					Processor Base Frequency	2.1 GHz or higher				
28.					No. of cores per processor	Minimum 8 core or higher				
29.					Processor Socket Support	Two Socket Server				
30.					RAM	Minimum 256Gb				
31.					Storage	3*900 Gb SAS or SSD Drives				
32.					Network Interface	Minimum 4 x 1Gbps port per server				
33.							FC HBA 8 Gig card			
34.					Power Supply	Redundant and Hot-swappable				
35.	Operating system	Licensed version of 64-bit latest version Operating system								

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks		
36.			Anti-Virus	To be provided						
37.	Server for Applications (Others- HRMS, Fleet Management, Analytics and SLA tools)	2	Form Factor	1U or above						
38.			Processor	Intel Xeon 64 bit or equivalent						
39.			Processor Base Frequency	2.1 GHz or higher						
40.			No. of cores per processor	Minimum 8 core or higher						
41.			Processor Socket Support	Two Socket Server						
42.			RAM	Minimum 64Gb						
43.			Storage	3*900 Gb SAS or SSD Drives						
44.			Network Interface	Minimum 4 x 1Gbps port per server						
45.				FC HBA 8 Gig card						
46.			Power Supply	Redundant and Hot-swappable						
47.			Operating system	Licensed version of 64-bit latest version Operating system						
48.			Anti-Virus	To be provided						
49.			Server for Database	2	Form Factor	1U or above				
50.					Processor	Intel Xeon 64 bit or equivalent				
51.	Processor Base Frequency	2.1 GHz or higher								
52.	No. of cores per processor	Minimum 8 core or higher								
53.	Processor Socket Support	Two Socket Server								
54.	RAM	Minimum 256 Gb								
55.	Storage	3*900 Gb SAS or SSD Drives								
56.	Network Interface	Minimum 4 x 1Gbps port per server								
57.		FC HBA 8 Gig card								
58.	Power Supply	Redundant and Hot-swappable								
59.	Operating system	Licensed version of 64-bit latest version Operating system								
60.	Anti-Virus	To be provided								
61.	Form Factor	Rack-mountable / Blade								

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
62.	Server for Application and Database replication	2	Processor	Latest series/ generation of 64bit x 86 / RISC / EPIC / CISC processor(s) with Minimum 8 core or higher 2.1 GHz or higher				
63.			RAM	Minimum 64Gb Memory per physical server				
64.			Internal Storage	3x900 Gb SAS / SATA (10krpm) hot swap disk				
65.			Network interface	Dual Integrated Gigabit Ethernet ports (Minimum 2 Integrated Gigabit Ethernet ports)				
66.			Power supply	Dual Redundant Power Supply				
67.			RAID support	As per requirement / solution				
68.			Operating System	Licensed version of 64-bit latest Operating system				
69.			Form Factor	Rack mountable 1U or more				
70.			Server for Staging & QA	2	Form Factor	1U or above		
71.	Processor	Intel Xeon 64 bit or equivalent						
72.	Processor Base Frequency	2.1 GHz or higher						
73.	No. of cores per processor	Min 8 core or higher						
74.	Processor Socket Support	Two Socket Server						
75.	RAM	Minimum 128Gb						
76.	Storage	4Tb SAS or SSD Drives						
77.	Network Interface	Minimum 4 x 1Gbps port per server						
78.		FC HBA 8 Gig card						
79.	Power Supply	Redundant and Hot-swappable						
80.	Operating system	Licensed version of 64bit latest version Operating system						
81.	Anti-Virus	To be provided						
82.	IP EPABX System	1	IPPBX (Hardware & Software) shall be provided in high availability configuration.					

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
83.				The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.				
84.				Should be compatible with all telecom interfaces or Telecom Service providers				
85.				It should compatible with ISDN PRI, Analogy trunks, H.323 trunk, SIP trunk. It should also provide facility to integrate with GSM, Radio devices.				
86.				Communication System should support Analogy, Digital, IP,SIP(3rd party SIP phone), Wireless IP Phone				
87.				Support for ACD Call Centre with CTI and advance call routing				
88.				IP Telephone extensions should be expanded based on quantities of data switch ports available.				
89.				The IP PBX should be modular, expandable, embedded IP server-gateway/server based architecture, having Unix or Linux or equivalent operating system software based platform. The system shall have hot standby/Active-Active arrangement so that it should continue to operate in case of failure or maintenance of main processor or power supply or interfacing card or CPU etc. The system should support IP or SIP as well as TDM. The TDM can be supported through an external Gateway.				
90.				Conference bridge that can manage multiple calls (min 5) simultaneous conferees.				
91.				The system shall allow outbound calling from the IP Phones.				
92.				The system shall support local announcements and music on hold.				
93.				The system shall be able to provide interface to ISDN PRI				
94.				The system shall be able to provide following features like Basic Call Setup, Name and Number Support, Transit Counter, called or Calling or Busy or Connected Name and Number, Name Identification, Diversion (Call forwarding), Diversion (Call forwarding) with Reroute, Call transfer.				
95.				The system shall have inbuilt web-based software for administration and maintenance of the system				
96.				The software shall provide GUI based interface for configuration and management of the system.				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
97.				The Software shall provide real-time information or alerts and reports regarding health status e.g. up or down status, performance & resource utilization statistics etc. of the system and its components				
98.				The system shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs shall include information about users who have login into the system				
99.				It shall be possible to schedule tasks. The tasks could be one or more operations that the user can specify to run at a predetermined date and time				
100.				It shall provide reports about station alarms, trunk analysis, processor occupancy, system capacity etc.				
101.				The IP PBX system should provide complete inbuilt encryption capabilities or features without any external firewall, with the ability to encrypt all traffic (media and call control signalling) between IP phones, soft phones, call controllers and all other associated endpoints via a strong encryption algorithm like IPSec or SRTP etc.				
102.				The system shall provide features viz. silence suppression, comfort noise and voice activity detection				
103.				Should provide features including but not limited Call forward all, Call forward while busy, Call forward if no answer, Call hold, Call Drop and retrieve, Call Waiting and Retrieve (with configurable audible alerting), Call Join, Call status (state, duration, number), Conference for at least 5 parties, Missed call information on IP phone, Directory dial from phone, Hands-free, speakerphone, Last number redial, Malicious Call ID and Trace, Abbreviated Dial, Speed Dial etc.				
104.				The system should have IP address and connected to the network				
105.				The system must support log services for both Internal and External commands and configuration history for 30 days at least				
106.				ACD (Hardware & Software) shall be provided in high availability configuration.				
107.				ACD should be capable to identify Agents availability into the particular state call center and route the call to the identified call center. ACD should support selective call routing based on Agent capability. Eg. 112, 181 and 108				
108.				The ACD system shall be able to handle call & IP Phone as per capacity defined in scope				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
109.				ACD functionality should be supported to propose Operating system				
110.				System should support skill base routing, multiple group support, priority handling and Queue status indicator. It is desirable that calls to certain trunk groups or to certain dialed numbers be assigned a higher priority than other calls and that calls which overflow from another split be queued ahead of other calls				
111.				System should support all call center Agents as per requirement on a server and can be scalable by 50% minimum of existing Agent				
112.				The ACD should support help or assist on Agent's phone. Agent can use this functionality to request help from the split supervisor. This functionality automatically dials the split supervisor's extension and connects the Agent to the supervisor. Current call should go on hold as the Agent use this functionality.				
113.				The system should support call overflow routing e.g. if there is a queue in particular ACD group and another group is sitting idle, system should be able to transfer the calls to another group based on the settings defined by the administrator.				
114.				The proposed system must support the concept of virtual seating. Agents can log-on from any "soft phone" instrument within the system. Agents on the proposed system will be logically defined, rather than requiring a "soft phone" extension and termination. Each Agent on the system must have an individually assigned log-on identification number which permits individual statistics to be collected by the ACD management information system				
115.				Automatic call distributor device should have capability to distribute the calls based on Skill level of the Agent like efficiency of the Agent and work load				
116.				Automatic call distributor device should have capability to distribute the calls based on Skill level of the Agent like efficiency of the Agent and work load				
117.				Automatic call distributor device should have some functionality where Supervisor can observe the Agent pattern or silently monitor the Agent.				
118.				Automatic call distributor device should have functionality to provide best service to the caller like listen only, listen and talk only etc.				
119.				Automatic call distributor device should have local treatment for IP & ISDN				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
120.				Automatic call distributor device should allow to compare specified skills, identify the skill that will provide the best service to a call, and deliver the call to that resource. If no Agents are currently available in that skill, the call is queued. To respond to changing conditions and operate more efficiently.				
121.				Automatic call distributor device should have expected Time for waiting in routing and				
122.				Automatic call distributor device should have Call Center Location Preference Distribution.				
123.				Automatic call distributor device should have Call Center Support for Locally Sourced Music and Announcements for calls that have been put on wait.				
124.				Automatic call distributor device should have an integrated call center functionality for IP or non-IP Agents.				
125.				Automatic call distributor device should support load balancing of all calls.				
126.				Automatic call distributor device should support for multiple announcements be played to a caller.				
127.				Automatic call distributor device should be able to track remote activity. The tracking for off-premises Agents must be the same as that for on-premises Agents.				
128.				Automatic call distributor device should support to provide Agent to be seen in a real-time view on a supervisor's workstation & Agent's activity should also show up on standard report.				
129.				Automatic call distributor device should provide the capability to the supervisors for logout Agents from their own voice terminal without having to go to the Agent's desk & it could be possible from a remote location.				
130.				The proposed system should support all states call center environment with multiple distinct sites as a single virtual call center operation. It should also have a capability to allocated call between sites based upon Agent skills, Agent availability, queue times, and other criteria.				
131.				Automatic call distributor device should support automated load-balancing capabilities and customized conditional routing capabilities. Proposed system should allow the comparisons to be made in queue conditions before routing calls so that split or skills are not overloaded				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				or it can be made in queue conditions after routing calls to determine if calls should be re-routed to alternate destinations.				
132.				Automatic call distributor device should be able to collect request information, such as a zip code or account code, before the call is sent to an Agent and then route the call based upon that information. The system must have the ability to prompt a caller for information in terms of digit.				
133.				All calls for each ACD group (Skilled or Hunt) must be redirected to a different extension after hours. Supervisors must be able to activate this from their voice terminal. Each group may have different hours of operation.				
134.				Automatic call distributor device should provide alternate routing automatically based upon time of day and day of week				
135.				Automatic call distributor device should use the estimated wait time or average speed of answer to make routing decisions.				
136.				The routing commands of the Automatic call distributor device should obtain information from another source like TSP interface or a database before routing the call				
137.				Both Agents and supervisors should be notified via the telephone indicators when thresholds are reached for individuals and groups.				
138.				Automatic call distributor device should have a capability for Agents to record personalized greetings that can be played to the caller prior to connection to the Agent.				
139.				Automatic call distributor device should have a capability for Agents to record personalized greetings that can be played to the caller prior to connection to the Agent.				
140.				Calls can be queue to an individual Agent. Agent should be notified and a delay announcement be provided if the call queues for an individual Agent who is on another call.				
141.				Automatic call distributor device should support to force the Agents to be put into an ACW (After call work) state for a predefined period of time in order to provide rest time between calls, pace calls to the Agents, or limit the amount of time an Agent spends in completing wrap-up work				
142.				Automatic call distributor device should be capable to define certain Agents as "reserve" Agents for certain skill sets which shall be able to handle call if configured incoming call threshold is exceeded				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
143.				ACD should be able to block nuisance callers against list of numbers captured in master database until either numbers is removed from the master database of nuisance callers.				
144.				In case of non-emergency, ACD System should allow auto transfer of calls to voice based feedback application which shall captures user's feedback on multiple questions using DTMF inputs				
145.				When interflowing calls between sites, automatic call distributor device should take advantage of Network Call Transfer and Deflection provided by the public switch telephone network to redirect an incoming ISDN call without requiring trunks to be tied up at the original destination after the call rerouting takes place.				
146.				Automatic call distributor device should allow to change or add or remove Agent skill dynamically while Agents are on calls.				
147.				Call should be routed to IP Phone and call related signal should be exchanged with the PC attached to the respective Agent				
148.				ACD or CTI should provide interface to signal call release, call hold, requests from call taker Agents				
149.				ACD system shall allow a call facility for Agent. If a call taker enters clerical mode that will be signalled to ACD call will not be routed to that Agent until it becomes free.				
150.				The CTI shall be capable of integrating with other application like CRM as per requirement.				
151.				The OS hosting the core CTI functionality shall be a flavour of UNIX or LINUX or Windows or any other supporting OS				
152.				The CTI platform shall be able to provide the caller's CLI (Caller Identification) information. It should populate the telephony controls within Agents Desktop / CAD application with CLI and other telephony event information				
153.				The CTI link shall be able to pass events and information of states and changes in Agent states as well as incoming calls to the computer applications, e.g.:- If the customer calls from the same no. from which caller had called earlier (registered Or unregistered), the CTI platform shall be able to automatically fetch and display at least last 5 service requests details for that customer.				
154.				The CTI shall maintain the accounting and authorization logs of the users accessing the components of the telephony system. The logs				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				shall include information users who have logged-in into the system and the specific commands entered by them.				
155.	SAN Storage 500 TB	1	Storage	Purpose built all flash Unified storage system shall support Both Block and File Protocols. It must have dual redundant controllers in active-active mode with automatic fail over to each other in case of failure.				
156.			Processor	Offered Storage System solution shall be configured with total of Single OR Dual active Hexa-Core processors in high availability mode. File services should not require any extra hardware and must be built in the processor.				
157.			Memory / Cache per Array	Array should be supplied with at least 48 GB Cache which should be flexibly usable for Read and write operations. All writes must be Secondarized across controllers. In the event of unplanned power failure, data in the cache should be safely de-staged to the disks to protect data from loss				
158.			Capacity	Minimum 500TB Usable capacity.				
159.			Hard Drives	Shall be supplied with suitable NI-SAS or SAS				
160.			Backend Connectivity	The Storage array shall have end to end 12 Gbps SAS architecture for Backend and Disk connectivity. The array should be supplied with 4 x 4 lane 12Gb/s SAS ports across storage controllers for back-end connectivity.				
161.			Storage Scalability	Storage subsystem shall be scalable to 100% or more of proposed capacity.				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
162.			Ports	The array should be supplied with 8 X 16G FC ports and 8 X 10G Ethernet Ports across controllers, Ethernet ports shall support both Block (iSCSI) and File (NFS, CIFS) protocols simultaneously.				
163.			Protocols	The array should support block protocols like FC, iSCSI and File protocols like CIFS, NFS and SMB.				
164.			Fault Tolerance	Should support RAID 0/1, 5, 6				
165.			Hot Spares	Array should be supplied with one global hot spare disk for every 30 disks of same capacity and speed.				
166.			Network Client Types Support	The storage array should support connectivity to current version of all OS Platforms.				
167.			Features	<ol style="list-style-type: none"> 1. The Storage array must provide end-to-end data protection using industry standard mechanism such as parity checking, checksum and background disk scrubbing etc. 2. The Storage array must provide multiple levels of access control including role-based security and auditing capability. 3. The storage system should support non-disruptive field replacement capabilities for components like Disk Drives, Disk connections, power supplies, controllers etc. 4. The Storage array should support continuous system monitoring, call-home notification, advanced remote diagnostics and proactive hot sparing to enhance system robustness, availability and reliability. 5. Storage should support Integration 				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				with third-party anti-virus software . it should support quota management. License if any for listed features should be configured for entire supported capacity of the array				
168.			Manageability	The storage should be configured with easy to manage, simple integrated user interface for distributed storage environments. A single sign-on centralized console should have dashboards for at-a-glance management and reporting and other functions like configuration monitor and manage. Performance monitoring should be provided to analyze the performance data				
169.			Data replication	The Storage array must support capability to replicate data to remote site array in synchronous and asynchronous modes This license should be configured for entire supported capacity of the array. License should be provided for entire capacity				
170.			Thin Provisioning	The storage array must be configured with required licenses to enable thin provisioning to allow physical allocation of just the storage that is needed or over provisioning of capacity. This license should be configured for entire supported capacity of the array				
171.			Snapshots	Storage shall be configured with required feature license to snapshot and restore file and block data. The. This license should be configured for entire supported capacity of the array				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
172.			Operating System	The storage array should support connectivity to current version of various OS Platforms.				
173.			Snapshots	Storage shall be configured with required feature license to snapshot and restore file and block data. The license should be configured for entire supported capacity of the array				
174.			Availability	Offered storage should support 99.999 availability				
175.			Quality of Service	The Storage should have the capability to provide Quality of Service (QoS) for the LUNs/volumes configured in the system to ascertain desired performance level for applications				
176.			Redundancy	Storage array shall be configured in No-Single-Point-of-Failure configuration with redundant components and offer Five 9's of availability.				
177.			Scalability	Array should be scalable up to minimum 125 Disk drive slots				
178.			Rack mount	Should be rack mounted.				
179.			FC SAN Switch	2	Architecture / Scalability / Performance / Management / Availability	Minimum Dual SAN switches shall be configured where each SAN switch shall be configured with 48 ports.		
180.	Required scalability shall not be achieved by cascading the number of switches and shall be offered within the common chassis only							
181.	Should deliver 16 Gbit/Sec Non-blocking architecture with 1:1 performance for up to 48 ports in a energy-efficient fashion							
182.	Should protect existing device investments with auto-sensing 4, 8, and 16 Gbit/sec capabilities.							

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
183.				The switch shall support different port types such as FL Port, F Port, E_ Port, EX_ Port.				
184.				The switch should be rack mountable				
185.				Should provide enterprise-class availability features such as redundant and hot pluggable components like power supply and FAN				
186.				The switch shall provide Aggregate bandwidth of 768 Gbit/sec end to end.				
187.				Switch shall have support for web-based management and should also support CLI.				
188.				The switch should have USB port for firmware download, support save, and configuration upload/download.				
189.				Offered SAN switches shall be highly efficient in power consumption. Bidder shall ensure that each offered SAN switch shall consume less than 120 Watt of power.				
190.				Switch shall support POST and online/offline diagnostics, including RAS trace logging, environmental monitoring, non-disruptive daemon restart, FC ping and Path info (FC traceroute), port mirroring (SPAN port).				
191.			Intelligent Networking	Offered SAN switch shall support services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QOS zones to expedite high-priority traffic				
192.				The switch shall be able to support ISL trunk up to 128 Gbit/sec between a pair				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				of switches for optimal bandwidth utilization and load balancing.				
193.				SAN switch shall support to restrict data flow from less critical hosts at preset bandwidths.				
194.				It should be possible to isolate the high bandwidth data flows traffic to specific ISLs by using simple zoning				
195.				The Switch should be configured with the Zoning and shall support ISL Trunking features when cascading more than 2 numbers of SAN switches into a single fabric.				
196.				Offered SAN switches shall support to measure the top bandwidth-consuming traffic in real time for a specific port or a fabric which should detail the physical or virtual device.				
197.	Network Load balancer	1	Server Load Balancing Mechanism	<ul style="list-style-type: none"> • Cyclic, Hash, Least numbers of users • Weighted Cyclic, Least Amount of Traffic • NT Algorithm / Private Algorithm / Customizable Algorithm / Response Time 				
198.			Redundancy Features	<ul style="list-style-type: none"> • Supports Active-Active and Active-Standby Redundancy • Segmentation / Virtualization support along with resource allocation per segment, dedicated access control for each segment 				
199.			Routing Features	<ul style="list-style-type: none"> • Routing protocols RIPv1 / RIPv2 / OSPF • Static Routing policy support 				
200.			Server Load Balancing Features	<ul style="list-style-type: none"> • Server and Client process coexist • UDP Stateless 				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				<ul style="list-style-type: none"> • Service Failover • Backup/Overflow • Direct Server Return • Client NAT • Port Multiplexing-Virtual Ports to Real Ports Mapping • DNS Load Balancing 				
201.			Load Balancing Applications	<ul style="list-style-type: none"> • Application/ Web Server, MMS, RTSP, Streaming Media • DNS, FTP- ACTIVE & PASSIVE, REXEC, RSH, • LDAP, RADIUS <ul style="list-style-type: none"> ○ Content Intelligent SLB ○ HTTP Header Super Farm ○ URL-Based SLB ○ Browser Type Farm • Support for Global Server Load Balancing • Global Server Load Balancing Algorithms • HTTP, HTTP Redirection, • DNS Redirection, RTSP Redirection • DNS Fallback Redirection, HTTP Layer 7 Redirection 	•	•	•	•
202.			SLB should support below Management options	<ul style="list-style-type: none"> • Secure Web Based Management • SSH • TELNET • SNMP v1, 2, 3 Based GUI • Command Line 	•	•	•	•
203.			Others	<ul style="list-style-type: none"> • Shall support minimum four (4) virtual instances and shall be scalable to 16 instances on the same appliance. 	•	•	•	•

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				<ul style="list-style-type: none"> Shall have minimum of 14 Gbps of system throughput per virtual instance to support multiple load balancing and security functions Shall have minimum of 8x10G SFP+ interfaces from day one. Shall have security features like reverse-proxy firewall, sync-flood and denial of service attack protection from day one 				
204.	24 Port core Switch	2	Ports	<ul style="list-style-type: none"> 24 10/100/1000 Base-TX Ethernet ports/FX and extra 2 numbers of Base-SX/LX ports FX/TX Splits for a switch as per location requirement All ports can auto-negotiate between 10Mbps/ 100Mbps/ 1000Mbps, half-duplex or full duplex and flow control for half-duplex ports. 	•	•	•	•
205.			Switch type	Layer 3				
206.			MAC	Support 8K or 16K MAC address. (as per solution offered)				
207.			Backplane	56 Gbps or more Switching fabric capacity for 24 ports.				
208.			Forwarding rate	Packet Forwarding Rate should be 70.0 Mbps or better				
209.			Port Features	Must support Port Mirroring, Port Trunking and 802.3ad LACP Link Aggregation port trunks				
210.			Flow Control	Support IEEE 802.3x flow control for full-duplex mode ports.				
211.			Protocols	<ul style="list-style-type: none"> Support 802.1D, 802.1S, 802.1w, Rate limiting Support 802.1X Security standards 	•	•	•	•

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				<ul style="list-style-type: none"> Support 802.1Q VLAN encapsulation, IGMP v1, v2 and v3 snooping 802.1p Priority Queues, port mirroring, Diff serv Support based on 802.1p priority bits with at least 8 queues DHCP support & DHCP snooping/relay/optional 82/ server support Shaped Round Robin (SRR) or WRR scheduling support. Support for IPV6 ready features with dual stack Support up to 255 VLANs and up to 4K VLAN IDs Support IGMP Snooping, IGMP Querying and Multicasting Should support Loop protection and Loop detection Should support Ring protection (when used in aggregation location) 				
212.			Access Control	<ul style="list-style-type: none"> Support port security Support 802.1x (Port based network access control). Support for MAC filtering. Should support TACACS+ and RADIUS authentication 	•	•	•	•
213.			VLAN	<ul style="list-style-type: none"> Support 802.1Q Tagged VLAN and port based VLANs and Private VLAN The switch must support dynamic VLAN Registration or equivalent 	•	•	•	•

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				<ul style="list-style-type: none"> Dynamic Trunking protocol or equivalent 				
214.			Protocol and Traffic	<ul style="list-style-type: none"> Network Time Protocol or equivalent Simple Network Time Protocol support Switch should support traffic segmentation Traffic classification should be based on user-definable application types: TOS, DSCP, Port based, TCP/UDP port number 	•	•	•	•
215.			Management	<ul style="list-style-type: none"> Switch needs to have RS-232/USB console port for management via a console terminal/PC Must have support SNMP v1,v2 and v3 Should support 4 groups of RMON Should have accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface 	•	•	•	•
216.			Switch with following port density: a) 48x10/100/1000 Base-T b) Additional 4x10G SFP+ ports. Populated with 1 No. of 10G SFP+ Module on Day1 c)Should be equipped with internal RPS					
217.	48 port Access Switch	2	Should support Virtual Switching System (VSS) / equivalent technology for higher availability of Layer 2 and Layer 3 including video applications Vendors should offer required cables/modules from day-1					
218.			The Virtual Switching System (VSS) / equivalent technology shall support virtualization of switch locally or over geographically diversified locations					

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219.				Layer 2/3 Features: Should support 4K VLAN id's and 4K active VLAN,s, RSTP, MSTP, IGMP v1/v2,v3, IGMP/ MLD proxy,				
220.				Layer 3 Features: Should support Static routing, RIP, RIPng, OSPF, OSPFv3, PIM v4 SM, DM and SSM, PIMv6-SM based on network requirements				
221.				Standards: IEEE 802.3ac, IEEE 802.3az, IEEE 802.1v, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1D,VRRPv3, PVST+ compatibility mode, IEEE 802.3az, Open Flow 1.3 protocol capability to enable software-defined networking				
222.				IEEE 802.3z Energy Efficient Ethernet(EEE)				
223.				The Switch must support IEEE 802.17 or equivalent Ring resiliency / Ring protection technology for Sub 50Ms convergence time				
224.				Security: Should support ACLs, DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI), MAC address filtering and MAC address lock-down, Tri-authentication: MAC-based, web-based and IEEE 802.1x, DHCPv4 (server, relay and client)				
225.				Management : CLI, GUI, USB interface for taking backup of software release files configurations, DDM – Optical digital diagnostic monitoring as per SFF – 8472 or equivalent standards, TDR, Net flow/sflow or equivalent, IPv6 Logo Ready from Day-1				
226.				Should support Unidirectional Link Detection (UDLD) or equivalent to detect unidirectional links caused by incorrect fibre optic wiring or port faults and disable on fibre optics interfaces				
227.				The switch should support in built Layer 1 monitoring capability for end to end security monitoring to avoid any eve drops or security breach on the Fiber uplink links.				
228.				Should seamlessly integrate with core switch				
229.				For ease of integration all switches, SFP's, AP's should of same OEM				
230.				Firewall with IPS	2	General requirements	Hardware based device for network protection with firewall, Antivirus, Anti Spyware, Anti-spam, Content Filtering &Intrusion Detection System (IDS) capabilities with 1 year hardware warranty & all security features support. Need to quote separately for subsequent years as required in this RFP.	

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231.				The device should be capable of being managed from a central location for configuration for, reporting and updates.				
232.				The bidder should supply required capacity of HDD for storage				
233.				Should provide an Http, Https, SSH, SNMP based management console for managing and configuring various components of the appliance				
234.				The system shall provide firewall, VPN, SSL VPN, anti-spyware & anti-Worm functionality				
235.				The system shall provide firewall, VPN, SSL VPN, anti-spyware & anti-Worm functionality				
236.				Licensing should support unlimited users & devices based				
237.				The communication between all the UTM System and GUI / Web UI Console should be encrypted with SSL or PKI				
238.				Be easily backup or restored via GUI and CLI to/from local PC, remote centralized management or USB disk				
239.				Be easily backup or restored via GUI and CLI to/from local PC, remote centralized management or USB disk				
240.				The system shall support profile base login account administration, offering gradual access control such as only to Policy Configuration & Log Data Access etc.				
241.				The proposed solution should support session time out & idle time out facility to forcefully logout the users.				

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242.				The proposed solution should support ACL based user creation for administration purpose.				
243.			Firewall Component	Stateful and deep packet inspection firewall.				
244.		Should prevent DoS& flooding attacks etc.						
245.		Multiple Zones security with separate rules for each zone.						
246.		Rules based on combination of Source and destination IP address / Zone and protocol						
247.		Support NAT, H.323 & SIP NAT Traversal.						
248.		Firewall should allow the multicast traffic to pass through the firewall system.						
249.		The firewall should be supplied with the support for RIP v2 and OSPF.						
250.		Firewall should support voice-based protocols like H.323, SIP etc.						
251.		The firewall should have to provide QoS services to ensure guaranteed bandwidth for mission critical traffic/ application.						
252.		Should support application control.						
253.		Should support traffic shaping.						
254.		It should be possible to operate the firewall in a "bridging" or "routing and NATing mode".						
255.		The Firewall should support authentication protocols like AD, LDAP and should support local data base.						
256.		The proposed solution should support user/IP functionality to map username with IP address / for security reason.						

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257.				Should support Inspection of HTTP proxy traffic and etc.				
258.				The proposed solution should be ICSA certified or any other equivalent certification and should compliance with FCC, CE/UL etc.				
259.				The proposed solution should support VPN failover for redundancy purpose where more than one connection are in group & if one connection goes down it automatically switch over to another connection for zero downtime.				
260.				The proposed solution must provide on SSL-VPN client solutions				
261.			Antivirus Component	Antivirus scanner should be able to scan POP3, SMTP, FTP, HTTP traffic including compressed packets.				
262.		Detects and removes viruses, worms, spyware and Trojans						
263.		Should provide ability to allow, block and intercept file based upon extension for HTTP.						
264.		Should be capable scanning Encrypted VPN tunnel traffic originating from the unit for malware.						
265.		The Antivirus capability shall minimally attain Internet Computer Security Association (ICSA) AV Certification or equivalent.						
266.		AV Signatures can be updated in 2 different ways: manually, or via automatic pull technology.						
267.		The proposed Integrated Anti-Virus should have at least one Certification as part of a UTM (NSS, Web coast Checkmark, ICSA or equivalent)						

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268.				The proposed solution should scan http/https, FTP, SMTP, POP3 etc traffic based on username, source/destination IP address or URL based regular expression.					
269.				The proposed solution should provide historical reports based on username, IP address, Sender, Recipient & Virus Names.					
270.				The proposed solution should have an integrated Anti-Spam solution.					
271.				Heuristic analysis.					
272.			IDS Component	Effective against blended threats.					
273.				Automatic attack database update.					
274.				Blocks anonymous proxies with HTTP proxy signatures.					
275.				Custom Signature support.					
276.				Supports attack recognition inside Ipv6 encapsulated packets.					
277.				Security check updates do not require reboot of the unit.					
278.				The device shall allow administrators to create Custom signatures.					
279.				Signature based detection using updated database.					
280.				The proposed solution should be able to protect web servers hosted in the network against SQL Injections, Cross-Site Scripting					
281.				Session Hijacking, URL Tampering, Cookie Poisoning with Extensive reporting and Logging etc.					
282.				Content & Application Filtering	URL Filtering for HTTP & HTTPS protocols.				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
283.				Web Content Filtering (Group and user – based filtering policies).				
284.				Prevents downloads of streaming media selectively.				
285.				Block Based on URL, Keyword or Phrases.				
286.				Filters web contents.				
287.			Interfaces	USB Port = 2No;				
288.				Console Port = 1No.				
289.					Management Port = 2x GE RJ45;			
290.					WAN Port = 4x GE RJ45 port;			
291.				LAN Port = 8x GE RJ45 port or higher to meet requirement.				
292.			System Performance	Firewall performance min = 16Gbps				
293.				Supported concurrent sessions min = 6 million				
294.					New sessions/second min =2,50,000			
295.					Maximum security policies min = 10,000			
296.				Con-current SSL-VPN user support min = 1500				
297.			Networking	Should also be able to handle dynamic routing for IPv4 (such as RIP , OSPF) and Ipv6 (such as RIPng, and OSPFv3)				
298.				Multiple WAN and WAN Backup should be supported				
299.				User Authentication Options: Build in Database				
300.			Reporting and Logging Console	The hardware based internal / External reporting and logging device must be capable of generating both generic and user based reports.				
301.					Graphical real-time and historical monitoring.			

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302.				Email Notification of events.						
303.				SNMP support.						
304.				Syslog server support.						
305.			Management and Administration Options			Web UI (HTTP/ HTTPS) and Command Line Interface.				
306.						Role-based administration.				
307.						Multiple Administrators and User Levels.				
308.						Upgrades & changes via Web UI.				
309.						Capable of being centrally managed including configuration and updates.				
310.					Power	Input voltage 230V AC, 50 Hz. (Dual hot swappable)				
311.			NMS	1		Automatic topology discovery and creation of network maps for Layer 3 and Layer 2 network, All the available VLANS				
312.	Should have high level Network Inventory polling capability for IP Network nodes including the security appliance, All available line cards, Modules, ports, Physical links, VLAN interfaces and all the other SNMP capable devices in the network									
313.	Should have powerful administration control									
314.	Detailed performance monitoring and management									
315.	Should have extensive fault management capabilities with Real time Event and Alarm notifications, System Logs and Audit trials									
316.	Creation and management of security and QOS policies									
317.	Scheduled Device configuration back-up and restore functionality									
318.	Automatic Detection of configuration changes for easy trouble shooting and Isolation									
319.	Should support 3rd party devices and end points									
320.	Should have the functionality of Group provisioning / Scheduled configuration roll out management									
321.	Should have the ability to perform scheduled or unscheduled network wide software or Firmware upgrades									

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322.				Should have the ability to customize the NMS dash boards as per the requirements of technical team				
323.				Should have the ability to perform / create group of devices for applying same task				
324.				Should have extensive event notification capability				
325.				Should provide the flexibility to the network administrator to assign task to an Individual network engineer and assign ownership / track the status of the issue resolution				
326.				Should have extensive centralized trouble shooting tools in-built				
327.				The NMS solution should be preferably from the same Active switching vendor, in case vendors proposing for 3rd party NMS solution should provide all the interop reports certified by both the NMS vendor and Active switching and security gateway vendor on seamless interoperability				
328.				All the required Hardware / Software licenses for the NMS solution should be proposed by the bidder				
329.	Passive Components	1 Lot		Total consumption and LAN length should be mentioned.				
330.	Database License			Bidder to provide Data base license as required				
331.	Antivirus Endpoint Security for Servers			Bidder to provide as required.				
Infrastructure at Emergency Response Center and Secondary Emergency Response Center								
332.				Headsets should have Quick connect feature to connect phone/desktop/mobile using a magnetic technology				
333.				It should support wideband voice quality and assure excellent reproduction of sound				
334.	IP Phone with Headsets	100		It should offer hearing protection on the users hearing by moderating the acoustic energy channelled to the user. This should also have a tight integration with the supplied phones.				
335.				It should have noise cancellation through the microphone				
336.				There should be a PC tool to allow management of headset for firmware upgrades and device settings like auto answer and equalizer				

Sl No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
337.	55 Inch 2x2 Video wall Monitors with controller (10x4 feet)	2	Diagonal Size	55"				
338.			Quantity	8 Nos				
339.			Type	D-LED or better				
340.			Resolution	1920*1080 or better				
341.			Pixel Pitch(mm)	0.63 mm (H) * 0.63mm(V) or better				
342.			Brightness	700 cd / m2 or better				
343.			Contrast Ratio	4000:1 or better				
344.			Viewing Angle(H/V)	175/175 or better				
345.			Response Time	10 ms or better				
346.			Display Colours	8bit-16.7M or better				
347.			Operation Hour	24/7				
348.			Input - RGB	Analog D-SUB, DVI-D, Display Port 1.2				
349.			VIDEO	HDMI1, HDMI2				
350.			AUDIO	Stereo mini Jack				
351.			USB	Yes				
352.			Output - RGB	DP 1.2 (Loop-out)				
353.			AUDIO	Stereo mini Jack				
354.			Connectivity ports	RS 232 C (in / out), RJ 45				
355.			Sensor type	Detachable type (IR, Ambient)				
356.			Power Supply	AC100-240V~(+/-10%),50/60Hz				
357.			Vesa mount	600X400 mm				
358.			Bezel to Bezel width	1.7mm or less				
359.			Certification	Safety - UL 60950-1				
360.			Others		EMC - EN55022, EN55024			
361.					Video wall 10X10 Daisy chain support			
362.					Image rotation			
363.					UHD resolution support			

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364.				Firm ware update through USB				
365.			Controller Features	The controller should offer advanced access and real-time control of Local and remote AV Input devices				
366.				It should allow users to independently switch and route multimedia by pressing the front panel buttons				
367.				It should have built-in scaler on each output port to support scaling function for different video resolutions				
368.				The front panel LCD should show active port connections				
369.				It should have capability to accommodate any combinations of digital formats such as DVI, HDMI etc.				
370.				It should have capability to connect 16 Video sources to any of 16 displays				
371.				It should support various video resolutions like 480p,720p,1080p,VGA,SVGA,XGA,SXGA,WUXGA				
372.				It should support 3DHDMI deep colour				
373.				It should have EDID expert setting for high quality display				
374.				It should easily switch between multiple sources and multiple displays				
375.				It should have front panels push buttons				
376.				It should have built-in bi directional RS 232 serial port for system control				
377.				It should have browser-based GUI and should support Telnet				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
378.				It should have firm ware upgrade through Web				
379.				It should have rack mountable				
380.				It should have high speed switching between all inputs and outputs to minimize latency				
381.				It should have built hot pluggable fans cooling mechanism				
382.				It should have hot pluggable redundant power supply				
383.				It should have following Ports /Switches <ul style="list-style-type: none"> Ethernet –RJ 45 RS 232 RS 485 Input pushbuttons -16 nos Output pushbuttons -16 nos 				
384.				Power input 230VAC				
385.	Video Wall (8x4 feet)	1	Please refer Video wall specification mentioned at point no 319 of this table. The size should be 8x4 feet					
386.	Display Units (55")	12	Diagonal Size	55"				
387.			Quantity	8 Nos				
388.			Type	D-LED or better				
389.			Resolution	1920*1080 or better				
390.			Pixel Pitch(mm)	0.63mm(H) * 0.63mm(V) or better				
391.			Brightness	700cd/m2 or better				
392.			Contrast Ratio	4000:1 or better				
393.			Viewing Angle(H/V)	175/175 or better				
394.			Response Time	10ms or better				
395.			Display Colours	8bit-16.7M or better				
396.			Operation Hour	24/7				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
397.			Input - RGB	AnalogD-SUB,DVI-D,DisplayPort1.2				
398.			VIDEO	HDMI1,HDMI2				
399.			AUDIO	Stereo mini Jack				
400.			USB	Yes				
401.			Output - RGB	DP1.2(Loop-out)				
402.			AUDIO	Stereo mini Jack				
403.			Connectivity ports	RS232C(in/out),RJ45				
404.		42	Sensor type	Detachable type (IR, Ambient)				
405.			Power Supply	AC100-240V~(+/-10%),50/60Hz				
406.			Vesa mount	600X400 mm				
407.			Bezel to Bezel width	1.7mm or less				
408.			Certification	Safety - UL 60950-1				
409.			Others	EMC - EN55022, EN55024				
410.				Video wall 10X10 Daisy chain support				
411.				Image rotation				
412.				UHD resolution support				
413.				Firm ware update through USB				
414.	Workstations with Dual Monitors for COs for 108 services	42	CPU	core i7 or better				
415.			Memory	8 GB				
416.			Hard-Disk Drive	2 TB SATA HDD				
417.			Display	2 x 21.5"-inch LCD / LED Display				
418.			Display ports	2 VGA or 2 Display port with DP to VGA convertors				
419.			Keyboard	Wired keyboard with 104 keys				
420.			Mouse	Wired Optical with USB interface				
421.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone				
422.			Cabinet	Mini Tower				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks		
423.			Operating system	Windows 10 pro						
424.			Anti-virus	To be provided						
425.	Workstations with 3 Monitors for DOs, ERCPs and Supervisors for 108 services	34	CPU	core i7 or better						
426.			Memory	8 GB						
427.			Hard-Disk Drive	2TB SATA HDD						
428.			Display	2 x 21.5"-inch LCD/LED Display						
429.			Display ports	2 VGA or 2 Display port with DP to VGA convertors						
430.			Keyboard	Wired keyboard with 104 keys						
431.			Mouse	Wired Optical with USB interface						
432.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone						
433.			Cabinet	Mini Tower						
434.			Operating system	Windows 10 pro						
435.			Anti-virus	To be provided						
436.			Workstations with single Monitors for Feedback, Quality for 108 services	12	CPU	core i7 or better				
437.					Memory	8 GB				
438.					Hard-Disk Drive	2TB SATA HDD				
439.	Display	2 x 21.5"-inch LCD/LED Display								
440.	Display ports	2 VGA or 2 Display port with DP to VGA convertors								
441.	Keyboard	Wired keyboard with 104 keys								
442.	Mouse	Wired Optical with USB interface								
443.	Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone								
444.	Cabinet	Mini Tower								
445.	Operating system	Windows 10 pro								
446.	Anti-virus	To be provided								

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
447.	Workstations with single Monitors for Information Officers, Medical Advisors, Medical Counsellors, Feedback, Quality and Supervisors for 104 services	26	CPU	core i7 or better				
448.			Memory	8 GB				
449.			Hard-Disk Drive	2TB SATA HDD				
450.			Display	2 x 21.5"-inch LCD/LED Display				
451.			Display ports	2 VGA or 2 Display port with DP to VGA convertors				
452.			Keyboard	Wired keyboard with 104 keys				
453.			Mouse	Wired Optical with USB interface				
454.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone				
455.			Cabinet	Mini Tower				
456.			Operating system	Windows 10 pro				
457.			Anti-virus	To be provided				
458.			Desktops	30	Processor	Intel Core i3 – 5 th Generation or higher Processor or equivalent. Bidder is required to submit a third party certificate for equivalence.		
459.	Chipset	Compatible chipset						
460.	Display	21-inch HD Anti-Glare						
461.	Ram	4GB (4GB x1) DDR3L 1600Mhz (Unused Memory slot 1)						
462.	Hard Drive	500 GB or high						
463.	VGA	Video HD Graphics						
464.	Keyboard	Standard						
465.	Battery life	Minimum 4 hours or Higher						
466.	Port	4USB Ports (2x USB 2.0 + 2x USB 3.0),						
467.		Bluetooth v4.0 or Higher						
468.		HDMI and VGA Port						
469.		WiFi IEEE 802.11b/g/n & 10/100/1000 NIC						
470.	Certificate	EPEAT Gold Registered and Energy Star						

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
471.			OS	Preloaded latest Windows 10 OS with media and certification with free down gradable to Windows 8 OS and free upgradable to Windows latest version				
472.			Office Suite	Should have the functionality of Excel, Power Point and Word Processor with professional support				
473.	Workstation Operating System License –Windows 10 Pro, Microsoft office Licence	120						
474.	Antivirus Endpoint Security	120						
475.				Switch should have minimum 48 No's of 10/100/1000 Base-Tx PoE ports (Duplex, Full, Half) and 4 x 1GE Uplink port. Switch PoE power rating should be 375W or more.				
476.				Should have minimum switching capacity of 52 Gbps. All ports on the switch should work on line rate.				
477.				Should be IPv4 and IPv6 ready from day one				
478.				The switch should support dedicated stacking port separate from uplink ports with 48 Gbps of stacking bandwidth.				
479.	48 Port POE switch	6		It shall support 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.				
480.				Port Security to secure the access to a port based on the MAC address of a user's device. The aging feature to remove the MAC address from the switch after a specific time to allow another device to connect to the same port.				
481.				Switch should support Port-based and 802.1Q tag-based VLANs, MAC-based VLAN, Guest VLAN, Private VLAN Edge, also known as protected ports, with multiple uplinks				
482.				All ports should have features of auto- negotiate, flow control (802.3x), port based network access control (802.1x), port security, MAC filtering etc.				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
483.				The switch should support IPv6 Guard, IPv6 RA-Guard, IPv6 DHCP-Guard, Source- Guard features				
484.				All necessary SFP's, interfaces, connectors, patch cords (if any) & licenses must be delivered along with the switch from day one.				
485.				The Switch should be 19" Rack mountable & the switch should be supplied with Indian standard AC (5Amp) power cord.				
486.	48 port Access Switch	6		Switch with following port density: a) 48x10/100/1000 Base-T b) Additional 4x10G SFP+ ports. Populated with 1 No. of 10G SFP+ Module on Day1 c)Should be equipped with internal RPS				
487.				Should support Virtual Switching System (VSS) / equivalent technology for higher availability of Layer 2 and Layer 3 including video applications Vendors should offer required cables/modules from day-1				
488.				The Virtual Switching System (VSS) / equivalent technology shall support virtualization of switch locally or over geographically diversified locations				
489.				Layer 2/3 Features: Should support 4K VLAN id's and 4K active VLAN,s, RSTP, MSTP, IGMP v1/v2,v3, IGMP/ MLD proxy,				
490.				Layer 3 Features: Should support Static routing, RIP, RIPng, OSPF, OSPFv3, PIM v4 SM, DM and SSM, PIMv6-SM based on network requirements				
491.				Standards: IEEE 802.3ac, IEEE 802.3az, IEEE 802.1v, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1D,VRRPv3, PVST+ compatibility mode, IEEE 802.3az, Open Flow 1.3 protocol capability to enable software-defined networking				
492.				IEEE 802.3z Energy Efficient Ethernet(EEE)				
493.				The Switch must support IEEE 802.17 or equivalent Ring resiliency / Ring protection technology for Sub 50Ms convergence time				
494.				Security: Should support ACLs, DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI), MAC address filtering and MAC address lock-down, Tri-authentication: MAC-based, web-based and IEEE 802.1x, DHCPv4 (server, relay and client)				
495.				Management : CLI, GUI, USB interface for taking backup of software release files configurations, DDM – Optical digital diagnostic				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				monitoring as per SFF – 8472 or equivalent standards, TDR, Net flow/S flow or equivalent, IPv6 Logo Ready from Day-1				
496.				Should support Unidirectional Link Detection (UDLD) or equivalent to detect unidirectional links caused by incorrect fibre optic wiring or port faults and disable on fibre optics interfaces				
497.				The switch should support in built Layer 1 monitoring capability for end to end security monitoring to avoid any eve drops or security breach on the Fibre uplink links.				
498.				Should seamlessly integrate with core switch				
499.				For ease of integration all switches, SFP's, AP's should of same OEM				
500.	24 port Core Switch	2	Ports	<ul style="list-style-type: none"> 24 10/100/1000 Base-TX Ethernet ports/FX and extra 2 numbers of Base-SX/LX ports FX/TX Splits for a switch as per location requirement All ports can auto-negotiate between 10Mbps/ 100Mbps/ 1000Mbps, half-duplex or full duplex and flow control for half-duplex ports. 	•	•	•	•
501.			Switch type	Layer 3				
502.			MAC	Support 8K or 16K MAC address. (as per solution offered)				
503.			Backplane	56 Gbps or more Switching fabric capacity for 24 ports.				
504.			Forwarding rate	Packet Forwarding Rate should be 70.0 Mbps or better				
505.			Port Features	Must support Port Mirroring, Port Trunking and 802.3ad LACP Link Aggregation port trunks				
506.			Flow Control	Support IEEE 802.3x flow control for full-duplex mode ports.				
507.			Protocols	<ul style="list-style-type: none"> Support 802.1D, 802.1S, 802.1w, Rate limiting 	•	•	•	•

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				<ul style="list-style-type: none"> • Support 802.1X Security standards • Support 802.1Q VLAN encapsulation, IGMP v1, v2 and v3 snooping • 802.1p Priority Queues, port mirroring, Diff serv • Support based on 802.1p priority bits with at least 8 queues • DHCP support & DHCP snooping/relay/optional 82/ server support • Shaped Round Robin (SRR) or WRR scheduling support. • Support for IPV6 ready features with dual stack • Support up to 255 VLANs and up to 4K VLAN IDs • Support IGMP Snooping, IGMP Querying and Multicasting • Should support Loop protection and Loop detection • Should support Ring protection (when used in aggregation location) 				
508.			Access Control	<ul style="list-style-type: none"> • Support port security • Support 802.1x (Port based network access control). • Support for MAC filtering. • Should support TACACS+ and RADIUS authentication 	•	•	•	•
509.			VLAN	<ul style="list-style-type: none"> • Support 802.1Q Tagged VLAN and port based VLANs and Private VLAN • The switch must support dynamic VLAN Registration or equivalent 	•	•	•	•

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				<ul style="list-style-type: none"> Dynamic Trunking protocol or equivalent 				
510.			Protocol and Traffic	<ul style="list-style-type: none"> Network Time Protocol or equivalent Simple Network Time Protocol support Switch should support traffic segmentation Traffic classification should be based on user-definable application types: TOS, DSCP, Port based, TCP/UDP port number 	•	•	•	•
511.			Management	<ul style="list-style-type: none"> Switch needs to have RS-232/USB console port for management via a console terminal / PC Must have support SNMP v1,v2 and v3 Should support 4 groups of RMON Should have accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface	•	•	•	•
512.	Laser Printer with scan and copy	6	Printer type	Laser; Functionality: All-in-One; Scanner type – flatbed;				
513.			Printer output	Monochrome				
514.			Connectivity	Wi-Fi, USB, Networking				
515.			Pages per minute	27 (Black);				
516.			Ideal Usage	Enterprise/Business, Frequent users (for fast, high quality printing)				
517.			Page Size Supported	A4, B5, A5, Legal, Letter, Executive, Envelope C5 / COM10 / DL, Monarch;				
518.			Duplex Print	Automatic				
519.			Print Resolution	1200 x 1200dpi				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
520.			Duty Cycle	25,000 sheets or better per month				
521.			Supported OS	Microsoft Windows 10 (32 / 64-bit) or later				
522.	Heavy duty Printer with scan and copy	2	Print	Speed: 40 Pages per minute Auto Both Side print Resolution: 1200 x 1200 dpi				
523.			Toner	8000 Pages Yield				
524.			Paper	Plain Paper Letterhead Coloured Paper Thin Paper Recycled Paper A4 Letter Legal India Legal Folio				
525.			Scan	Max Size 8.5 x 14 Inch Can scan legal paper Colour Scanning Laser Scanning				
526.			Copy	Max Width 8.26 Inch Multiple Copies: 99 Enlarge/Reduce: 25 to 400% (in increments of 1%) Max Resolution: 1200 x 600 dpi				
527.			Fax	Max Width: 8.19 mm Broadcasting: 350 Locations Speed Dial 300 Locations Automatic Redial: 3 times at 5 minutes interval Memory Transmission: 500 Pages				
528.			Body	Dimensions: 495x427x486 (WDH) 2 Input Tray Input Tray: 2 x 250 sheets ADF Tray : 70 Sheets Output Tray: 150 Sheets Display: 3.7-Inch TFT Colour LCD Memory: 1GB Weight: 17.7 Kg Active Power consumption: 645-Watt				
529.			Connectivity	USB 2.0 LAN Wireless LAN Network Printer				
530.	100 KVA Online UPS with 90 Minutes Backup for ERC	2	Capacity	100KVA				
531.			Output Wave Form	Pure Sine wave				
532.			Input Power Factor at Full Load	>0.90				
533.			Input	Three Phase				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks		
534.			Input Voltage Range	305-475VACat Full Load						
535.			Input Frequency	50Hz+/-3Hz						
536.			Output Voltage	400VAC, ThreePhase						
537.			Output Frequency	50Hz+/-0.5%(Free running);+/-3%(Sync Mode)						
538.			Inverter efficiency	>90%						
539.			Over All AC-AC Efficiency	>85%						
540.			UPS shutdown	UPS should shutdown with an alarm and indication on following conditions 1) Output over voltage 2) Output under voltage						
541.			Battery Backup	15 minutes in full load						
542.			Battery	VRLA (Valve Regulated Lead Acid) / SMF (Sealed Maintenance Free) Battery						
543.			Indicators & Metering	Indicators for AC Mains, Load on Battery, Fault, Load Level, Battery Low Warning, Inverter On, UPS on Bypass, Overload etc. Metering for Input Voltage, Output Voltage						
544.			Audio Alarm	Battery low, Mains Failure, Over temperature, Inverter overload, Fault etc.						
545.			100 KVA Generator for ERC	1	General Specifications	Auto Starting DG Set mounted on a common base frame with AVM (Anti-Vibration) pads, residential silencer with exhaust piping, complete conforming to ISO 8528 specifications and CPCB certified for emissions. KVA rating as per the requirement				
546.					Engine	Radiator cooled, multi cylinder, 1500 RPM diesel engine with electronic / manual governor and electrical starting arrangement complete with battery,				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				conforming to BS 5514 / ISO 3046/ IS 10002				
547.			Fuel	High Speed Diesel (HSD)				
548.			Alternator	Self-exciting, self-regulating type alternator rated at 0.8 PF or better, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec, 1500 RPM, conforming to IS 4722/ BS 5000, Windings of 100% Copper, class H insulation, Protection as per IP 23.				
549.			AMF (Auto Main Failure) Panel	AMF Panel fitted inside the enclosure, with the following: It should have the following meters / indicators x. Incoming and outgoing voltage y. Current in all phases z. Frequency aa. KVA and power factor bb. Time indication for hours/minutes of operation cc. Fuel Level in fuel tank, low fuel indication dd. Emergency Stop button ee. Auto/Manual/Test selector switch ff. MCCB/Circuit breaker for short-circuit and overload protection gg. Control Fuses hh. Earth Terminal ii. Any other switch, instrument, relay etc. essential for Automatic functioning of DG set with AMF panel				
550.			Acoustic Enclosure	The DG set shall be provided with acoustic enclosure / canopy to reduce the sound level and to house the entire DG set (Engine & Alternator set) assembly outside (open-air). The enclosure must be weather resistant powder coated, with insulation designed to meet latest MOEF/CPCB norms for DG sets, The enclosure must have				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				ventilation system, doors for easy access for maintenance, secure locking arrangement				
551.			Fuel Tank Capacity	It should be enough and suitable for containing fuel for minimum 12 hours continuous operation, Complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of fuel hoses for inlet and return.				
552.	40KVA Online UPS with 90 minutes Backup for SERC	1	Capacity	40KVA				
553.			Output Wave Form	Pure Sine wave				
554.			Input Power Factor at Full Load	>0.90				
555.			Input	Three Phase				
556.			Input Voltage Range	305-475VACat Full Load				
557.			Input Frequency	50Hz+/-3Hz				
558.			Output Voltage	400VAC,ThreePhase				
559.			Output Frequency	50Hz+/-0.5%(Free running);+/-3%(Sync Mode)				
560.			Inverter efficiency	>90%				
561.			Over All AC-AC Efficiency	>85%				
562.			UPS shutdown	UPS should shutdown with an alarm and indication on following conditions 1) Output over voltage 2) Output under voltage				
563.			Battery Backup	15 minutes in full load				
564.			Battery	VRLA (Valve Regulated Lead Acid) / SMF (Sealed Maintenance Free) Battery				
565.			Indicators & Metering	Indicators for AC Mains, Load on Battery, Fault, Load Level, Battery Low Warning, Inverter On, UPS on Bypass,				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				Overload etc. Metering for Input Voltage, Output Voltage				
566.			Audio Alarm	Battery low, Mains Failure, Over temperature, Inverter overload, Fault etc.				
567.	40 KVA Generator for SERC	1	General Specifications	Auto Starting DG Set mounted on a common base frame with AVM (Anti-Vibration) pads, residential silencer with exhaust piping, complete conforming to ISO 8528 specifications and CPCB certified for emissions. KVA rating as per the requirement				
568.			Engine	Radiator cooled, multi cylinder, 1500 RPM diesel engine with electronic / manual governor and electrical starting arrangement complete with battery, conforming to BS 5514 / ISO 3046/ IS 10002				
569.			Fuel	High Speed Diesel (HSD)				
570.			Alternator	Self-exciting, self-regulating type alternator rated at 0.8 PF or better, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec, 1500 RPM, conforming to IS 4722/ BS 5000, Windings of 100% Copper, class H insulation, Protection as per IP 23.				
571.			AMF (Auto Main Failure) Panel	AMF Panel fitted inside the enclosure, with the following: It should have the following meters / indicators jj. Incoming and outgoing voltage kk. Current in all phases ll. Frequency mm.KVA and power factor nn. Time indication for hours/minutes of operation oo. Fuel Level in fuel tank, low fuel indication pp. Emergency Stop button qq. Auto/Manual/Test selector switch				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
				rr. MCCB/Circuit breaker for short-circuit and overload protection ss. Control Fuses tt. Earth Terminal Any other switch, instrument, relay etc. essential for Automatic functioning of DG set with AMF panel				
572.			Acoustic Enclosure	The DG set shall be provided with acoustic enclosure / canopy to reduce the sound level and to house the entire DG set (Engine & Alternator set) assembly outside (open-air). The enclosure must be weather resistant powder coated, with insulation designed to meet latest MOEF/CPCB norms for DG sets, The enclosure must have ventilation system, doors for easy access for maintenance, secure locking arrangement				
573.			Fuel Tank Capacity	It should be enough and suitable for containing fuel for minimum 12 hours continuous operation, Complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of fuel hoses for inlet and return.				
574.	Passive Component	1 Lot	Total consumption and LAN length should be mentioned.					
575.	24U Rack with all accessories	1	Depth	800 mm or above				
576.			1U Cable manager	Bidder to specify				
577.			Front Door Options	Tough tinted glass or better with Lock and Key				
578.			Cable Entry Provision	Top and Bottom				
579.			Rear Door Options	Perforated Steel				
580.			Top Panel Options	Vented Hole provision for Cabling				
581.			Side Panel Options	Removable Sides – Left and Right				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
582.			Ventilation Fan	2 Nos. of Fan tray with 4 Fans each				
583.			Adjustable Shelves	4 Nos.				
584.			Sliding/Rotating Keyboard Shelf	Qty 1				
585.			AC Distribution Box with ON / OFF switch	5/15A sockets -10 x 2				
586.			Mounting Hardware, Casters, Levellers and Blanking Panels	Should be provided as per requirement				
587.			Full HD dome cameras	12	Image Sensor	1/3" 2 Megapixel CCD/CMOS with dual stream		
588.	Effective Pixels	1920 (H) x 1080 (V)						
589.	Scanning System	Progressive with Multiple Simultaneous Streaming						
590.	Electronic Shutter Speed	Auto / Manual 1/3~1/10000						
591.	Minimum Illumination	Color:0.2Lux/F1.6,B/W:0.01Lux/F1.6						
592.	S/N Ratio	>50dB						
593.	Day/Night	Auto (Electronic) / Colour / B/W						
594.	Backlight Compensation	BLC/HLC/DWDR						
595.	White Balance	Auto						
596.	Gain Control	Auto / Manual						
597.	Local Storage	Minimum 128GB SD Card						
598.	Focal Length	As per solution offered						
599.	Focus Control	Fixed lens						
600.	Mount Type	Board-in Type						
601.	Compression	H.264 / MJPEG						
602.	Resolution	1080P (1920x1080) / 720P (1280x720) / D1 (704x576) / CIF (352x288)						
603.	Frame Rate	Main Stream 1080P / 720P (1~25 / 30 fps)						

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
604.				Sub Stream 720p (1~25 / 30 fps) and below				
605.			Bit Rate	H.264:32K~8192 Kbps, MJPEG: 32K~20480 Kbps				
606.			Ethernet	RJ-45(10/100 Base-T)				
607.			Protocol	IPv4 / IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, SNMP, RTSP, RTP, NTP, DHCP, DNS, DDNS, IP Filter, QoS				
608.			Interoperability	ONVIF Profile S/G (with support for retrieving video stored in local memory card)				
609.			Maximum User Access	More than 10 users				
610.			Power Supply	DC12V, PoE (802.3af)				
611.			Working Environment	-10°C~+60°C,10%~90%				
612.			Certification	UL/EN, CE,FCC				
Infrastructure at Ambulances & MMUs								
613.	Mobile Data Terminal Units (Rugged) for Ambulances	800	Processor	Octa-Core CPU with minimum processor speed 1.4Ghz or higher				
614.			Memory	Minimum 4GB RAM or higher				
615.			Storage	Minimum 64GB built in or higher				
616.			Display	7-8" with resolution of WXGA 1280 x 800 LED backlighting Brightness 400 NITS or above				
617.			Sensors	Ambient light, E-compass, Gyro, Acceleration				
618.			Keyboard & input	Multi point touch with support for Glove / Wet operation. Minimum 2 user-definable Function buttons				
619.			Cameras	Front 2MP with mic; 13 MP rear camera				
620.			Interface	USB 3.1 type C; Micro SD Card slot; SIM slot				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
621.			Wireless	Wi-Fi 802.11ac, Bluetooth				
622.			Mobile Broadband	Integrated 4G LTE with fallback to 3G / 2G and with voice calling over 4G LTE. Good quality Bluetooth Headset to be provided				
623.			GPS	Integrated dedicated satellite GPS with external antenna connector on the tablet				
624.			Power supply	Lithium - Ion battery, Minimum 7500 mAH				
625.			Software	Android 7.0 or higher User Button Manager				
626.			Weight	Not more than 750gm				
627.			Durability	MIL-STD-810G Certificate (5' drop, shock, vibration, rain, dust) IP65 design sealed all-weather fan less design				
628.			Vehicle Dock	Vehicle cradle with keyed lock for theft deterrence and Dashboard mount. The dock should be Fully Rugged:- Vibration Tested: MIL-STD 810G Shock Crash Hazard: SAE J1455; Mechanical Shock: 40g				
629.			Vehicle Power adaptor	Vehicle power adaptor				
630.			Eligibility criteria	5. MIL-STD-810G Certificate for MDT needs to be submitted from any Govt Accreditation lab	6.	7.	8.	9.
631.		10. Should have a valid BIS certificate		11.	12.	13.	14.	
632.		15. OEM should be present in India for minimum last 3years.		16.	17.	18.	19.	
633.		20. The Model being quoted should have been deployed in any of the Govt /PSU and should be in operation for a minimum of 1year (minimum qty of 100 Nos)		21.	22.	23.	24.	

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
634.	Mounts for MDT	800						
635.	MDT application software	800						
636.	Mobile Phones	2250	Processor	1.86 GHz Octa core Processor or higher				
637.			RAM	Minimum 2 GB				
638.			Storage	Minimum 16 GB				
639.			SIM	Single SIM or above				
640.			Network Technology	Should support all frequencies of GSM as listed by TRAI / WPC supporting 2G, 3G & 4G networks				
641.			Display	Min 5.5 Inches or Higher				
642.			OS	Android 9.0 or Latest				
643.			Resolution	1080x1920 pixels or Higher				
644.			Front Camera	Min 5 megapixel				
645.			Rear Camera	Min 8 megapixel				
646.			Universal Port	Type C				
647.			Bluetooth	Min v4.2				
648.			Wi-Fi	802.11 a/b/g/n				
649.			Battery Capacity	3800 mah or higher				
650.			Headset Port	3.5 mm				
651.			Onsite Support	3 Years				
652.			Launch Date	After Jan 2019				
653.			Benchmarks	Mobile XPRT-2015 Performance Rating 100 or more. UX Rating – 90 or more. Full disclosure report has to be submitted by the bidder.				
654.			Mobile Device Management (MDM)	Password Protection				
655.				Password reset				
656.	Remote Device wipe							
657.	Remote Lock							

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
658.			SAR (Specific Absorption Rate) below 1.6 w/kg	The bidder shall submit the SAR Certificate along with the bid. In case any bidder doesn't have the SAR certification as on the date of bid submission, a declaration needs to be submitted along with the bid stating that the SAR certification will be provided before the scheduled delivery of the equipment.				
659.			SD Card Provision	Yes				
660.	Laptops with Windows 10 OS , Antivirus , MS office	720	CPU	Core i5				
661.			Memory	8 GB				
662.			Hard-Disk Drive	500 GB				
663.			Display	15"-inch LCD / LED Display				
664.			Ports	USB Ports including 2 USB 3.0 Ports and audio ports for microphone and headphone				
665.			Operating system	Windows 10 pro				
666.			Anti-virus	To be provided				
667.			AVLS / GPS Device	1400	AIS 140 standard			
668.	Blue tooth Headsets	800	Should be compatible with the MDT devices installed in the Ambulances					
669.	Biometric Terminal for time and attendance	1500	RF Option	13.45 MHz MIFARE				
670.			Users (1:1)	5000 or better				
671.			Users(1:N)	5000 or better				
672.			Maximum Finger per User	10				
673.			Text Log	50,000				
674.			CPU	533MHzDSP				
675.			Memory	16MB RAM+8MB Flash				
676.			LCD Type	128x64 Graphic LCD (Monochrome)				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
677.			Operating Temperature	-20°C~50°C				
678.			Ethernet	10/100 Mbps, auto MDI / MDI-X				
679.	Dome Camera with 64 GB SD card	800	Image Sensor	1/3" 2 Megapixel CCD/CMOS with dual stream				
680.			Effective Pixels	1920 (H) x 1080 (V)				
681.			Scanning System	Progressive with Multiple Simultaneous Streaming				
682.			Electronic Shutter Speed	Auto / Manual 1/3~1/10000				
683.			Minimum Illumination	Color:0.2Lux/F1.6,B/W:0.01Lux/F1.6				
684.			S/N Ratio	>50dB				
685.			Day/Night	Auto (Electronic) / Colour / B/W				
686.			Backlight Compensation	BLC/HLC/DWDR				
687.			White Balance	Auto				
688.			Gain Control	Auto / Manual				
689.			Local Storage	Minimum 128 GB SD Card				
690.			Focal Length	As per solution offered				
691.			Focus Control	Fixed lens				
692.			Mount Type	Board-in Type				
693.			Compression	H.264 /MJPEG				
694.			Resolution	1080P (1920x1080) / 720P (1280x720) / D1 (704x576) / CIF (352x288)				
695.			Frame Rate	Main Stream 1080P / 720P (1~25 / 30 fps)				
696.				Sub Stream 720p (1~25 / 30 fps) and below				
697.			Bit Rate	H.264:32K~8192 Kbps, MJPEG: 32K~20480 Kbps				
698.			Ethernet	RJ-45(10/100 Base-T)				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
699.			Protocol	IPv4 / IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, SNMP, RTSP, RTP, NTP, DHCP, DNS, DDNS, IP Filter, QoS				
700.			Interoperability	ONVIF Profile S/G (with support for retrieving video stored in local memory card)				
701.			Maximum User Access	More than 10 users				
702.			Power Supply	DC12V, PoE (802.3af)				
703.			Working Environment	-10°C~+60°C,10%~90%				
704.			Certification	UL/EN, CE,FCC				
705.	2 KVA Inverter with 65 AH battery	1444	Should be able to provide backup for 8 hours					
706.	Cabling	1444						
707.	Installation testing and Commissioning	1444						
Connectivity Requirements								
708.	30 Mbps MPLS connectivity Between DC, ERC and SERC	1						
709.	Supply and Laying of 4 core Armoured cable between DC and ERC including trenching and HDPE conduit	1000						
710.	PRI Line Charges (Incoming & Outgoing)	1	No. of PRI Line	10 PRI lines; 3 PRI line from BSNL for Incoming (ERC and SERC); 2 PRI line with Outgoing facility also from BSNL (ERC and SERC); 2 PRI line from Other service provider for Outgoing.				

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
711.			Type	Single incoming number with 30 Channels / Lines				
712.			Availability	Superior Voice clarity with 100% uptime				
713.			Speed requirement	16 Mbps or higher internet leased line with 8 static IP for each line				
714.			Type	1:1 Balanced Port to Port non sharing Internet leased line connectivity				
715.			Output	Ethernet type using suitable routers along modem if required				
716.	100 Mbps or higher internet leased line with 8 static IP at DC	1	Accessories & installation	Suitable Modem /router should be provided based on provision of Ethernet type connecting cables with accessories etc.				
717.			Installation and commissioning	Should carryout necessary installation of line and configuration of router based on user requirement.				
718.			Support	Annual Basis with 24 x 7 support				
719.			Compliance	All Equipment should be CE / FCC compliance or certified.				
720.			Availability	Different service provider shall be chosen to ensure 100% availability to support 24x7 operation				
721.			Support	Warranty and maintenance also shall be covered for routers & modem				
722.	4G Sim cards for MDT , GPS, Laptop, Smart Phones, Biometric device with 2GB Monthly plan	7000		1Gb Usage per Month for Pilot MDT's 1Gb Usage per Month for Handheld MDT's 500Mb Usage per Month for GPS Units				
723.	4G Hotspot for CCTV live streaming with	1444						

SI No	Equipment	Quantity	Component	Minimum Specification	Make & Model	Quantity	Specification proposed by the bidder	Remarks
	10GB Monthly Plan							

10.11.3 Bill of Material Compliance for Software Licenses

SI. No	Software	Quantity	Equipment on which the software will be installed	Mode of License (Enterprise, User based etc.)	Version	Support provided by the OEM	Remarks
1.	CAD Solution						
2.	GIS Solution						
3.	Fleet Management						
4.	HRMS						
5.	Analytics Tool						
6.	Inventory Management						
7.							
8.							
9.							
10.	Any other software licenses which are applicable for the solution proposed						

10.12 Proposed Wok Plan

No	Activity	Calendar Months							
		1	2	3	4	5	.	.	n

Indicate all main activities of the Project, including supply, delivery and installation of Hardware, Software, Testing, Go-Live of the proposed components for DC, DR, Ambulances, MMUs, ERC and SERC. The plan should also indicate the manpower deployment and other key activities which are required to fully functionalize the proposed ERC and SERC

10.13 Team Composition

Name of Staff with qualification and experience	Area of Expertise	Position Assigned	Task Assigned	Time committed for the engagement

10.14 Curriculum Vitae (CV) of Key Personnel

General Information	
Name of the person	
Current Designation/ Job Title	
Current job responsibilities	
Proposed Role in the Project	
Proposed Responsibilities in the Project	
Academic Qualifications: <ul style="list-style-type: none"> • Degree • Academic institution graduated from • Year of graduation • Specialization (if any) • Key achievements and other relevant information (if any) 	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Summary of the Professional/ Domain Experience	
Number of complete life cycle implementations carried out	
The names of customers (Please provide the relevant names)	
Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: <ul style="list-style-type: none"> • Organizations worked for in the past <ul style="list-style-type: none"> ○ Organization name ○ Duration and dates of entry and exit ○ Designation Location(s) ○ Key responsibilities • Prior project experience <ul style="list-style-type: none"> ○ Project name ○ Client ○ Key project features in brief ○ Location of the project ○ Designation ○ Role ○ Responsibilities and activities ○ Duration of the project Please provide only relevant projects.	
Proficient in languages (Against each language listed indicate if speak/read/write)	

10.15 Deviations

[This section should contain any assumption on areas which have not been provided in the RFP OR any changes to the existing provisions of the RFP]

A - On the Terms of Reference

[Suggest and justify here any modifications or improvement to the Scope of Work you are proposing to improve performance in carrying out the assignment (such as deleting some activity you consider unnecessary, or adding another, or proposing a different phasing of the activities). Such suggestions should be concise and to the point and incorporated in your Proposal.]

B – Functional Requirements

C – Bill of Quantity (BOQ)

D – Any other areas

10.16 Undertaking on Compliance and Sizing of Infrastructure

No. Date:

To:

Dear Sir,

Sub: Undertaking on Compliance and Sizing of Infrastructure

1. I/We as System Integrator do hereby undertake that we have proposed and sized the hardware and all software (including perennial and enterprise wide licenses, unless stated otherwise) based on information provided by <<APMSIDC>> in its RFP document and in accordance with the service level requirements and minimum specifications provided and assure <<APMSIDC>> that the sizing is for all the functionality envisaged in the RFP document.
2. Any augmentation of the proposed solution or sizing of any of the proposed solutions (including software and hardware) in order to meet the minimum RFP requirements and /or the requisite service level requirements given by <<APMSIDC>> will be carried out at no additional cost to <<APMSIDC>> during the entire period of Contract.

Yours faithfully,

(Signature of the Authorized signatory of the Bidding Organization)

Name :
Designation :
Date :
Time :
Seal :
Business Address:

10.17 Performance Security

Bank Guarantee

[The bank, as requested by the successful bidder, shall fill in this form in accordance with the instructions indicated]

Beneficiary: *[insert name and Address of Client]*

Date: *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _ *[insert name of Agency]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for 'Selection of Agency to establish and operate Emergency Response Center (ERC) in Andhra Pradesh' (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2....., and any demand for payment under it must be received by us at this office indicated above on or before that date.

[signature(s)]

Note: *All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

10.18 Bank Guarantee format for CAPEX Mobilization Advance

Bank Guarantee for Advance Payment

To: [name and address of Client]

[name of Contract]

Gentlemen: In accordance with the provisions of the Special Conditions of Contract, Clause 9.1 (“Mobilization Advance”) of the above-mentioned Contract, [name and address of selected bidder] (hereinafter called “the Agency”) shall deposit with [name of Client] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of [amount of Guarantee], [amount in words].

We, the [bank or financial institution], as instructed by the Agency, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to [name of Client] on his first demand without whatsoever right of objection on our part and without his first claim to the Agency, in the amount not exceeding [amount of Guarantee], [amount in words], such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of the Contract or of Services / Works to be performed thereunder or of any of the Contract documents which may be made between [name of Client] and the Agency, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Agency pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until [name of Client] receives full repayment of the same amount from the Agency.

Yours truly,

[Name of Bank]

[signature(s)]

10.19 Financial Proposal Cover Letter

To:

<Location, Date>

<Name>
 <Designation>
 <Address>
 <Phone Nos.>
 <Fax Nos.>
 <Email id>

Subject: Submission of the Financial bid for <Provide Name of the Assignment>

Dear Sir/Madam,

We, the undersigned, offer to provide the services for <Title of the Assignment> in accordance with your Request for Proposal dated <Date> and our Proposal (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of <**Amount in words and figures**>. This amount is inclusive of the local taxes. The high-level breakup is mentioned below

Sl. No.	Cost	Component	Cost (INR)	Taxes (INR)	Total Cost (INR)
1	CAPEX	Cost for Infrastructure at ERC, SERC, DC, DR, Ambulances and MMUs (Including System Software, OS, Licenses etc.)			
2		Cost of the connectivity to be provided for DC, DR, ERC and SERC			
3		Cost of License for the entire Solution stack proposed at ERC and SERC			
4		Total CAPEX (1+2+3)			
5	OPEX	Cost of maintenance of the Infrastructure at ERC, SERC, DC, DR, Ambulances and MMUs (Including System Software, OS, Licenses etc.)			
6		Cost of maintenance of the entire Solution stack proposed at ERC and SERC			
7		Cost of Manpower to be deployed including implementation of the project and operations of ERC and SERC			
8		Total OPEX (5+6+7)			
		Total Cost Rs. (4) +(8)			

1. PRICE AND VALIDITY

- All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Bid are valid for a period of <days> calendar days from the date of opening of the Bid.
- We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections.
- We understand that the actual payment would be made as per the existing indirect tax rates during the time of payment.

2. UNIT RATES

We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to/ decrease from the scope of work under the contract.

3. DEVIATIONS

We declare that all the services shall be performed strictly in accordance with the Tender documents except for the variations and deviations, all of which have been detailed out exhaustively in the following statement, irrespective of whatever has been stated to the contrary anywhere else in our bid.

Further we agree that additional conditions, if any, found in the Tender documents, other than those stated in deviation schedule, shall not be given effect to.

4. TENDER PRICING

We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in Tender documents.

5. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information / documentary proof in this regard before evaluation of our Tender, we agree to furnish the same in time to your satisfaction.

6. BID PRICE

We declare that our Bid Price is for the entire scope of the work as specified in the Section No.5. These prices are indicated Financial Bid attached with our Tender as part of the Tender.

7. PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded to us, we shall submit the Performance Bank Guarantee as specified in the <Bid Form 10.16> of this RFP document.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e., [Date].

We understand you are not bound to accept any Proposal you receive.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Thanking you,

We remain,

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

10.19.1 Financial Proposal (CAPEX)

Detailed Breakup of the CAPEX Cost for Infrastructure

SI No	Area	Equipment	Unit Rate (INR)	Quantity	Taxes (INR)	Total Cost (INR)
1	Data Center and DR					
	<Component 1>					
	<Component 2>					
2	ERC and SERC					
3	Ambulances and MMUs					
4	Connectivity					
5	Additional Components or devices, if any					

Detailed Breakup of the CAPEX cost for Solution Software to be deployed at ERC and SERC

SI No	Solution Name	Unit Rate (INR)	Quantity	Taxes (INR)	Total Cost (INR)
1	Solution Name (e.g. CAD solution, GIS Solution etc.)				
2					
3					
4					

10.19.2 Financial Proposal (OPEX)

Detailed Breakup of OPEX Cost for the Infrastructure

SI No	Area	Equipment	Y1 Cost (INR)	Y1 Taxes (INR)	Y2 Cost (INR)	Y2 Taxes (INR)	Y3 Cost (INR)	Y3 Taxes (INR)	Y4 Cost (INR)	Y4 Taxes (INR)	Y5 Cost (INR)	Y5 Taxes (INR)	Y6 Cost (INR)	Y6 Taxes (INR)	Y7 Cost (INR)	Y7 Taxes (INR)	Total Cost (INR) (1+2+3+4+5+6+7+8+9+10+11+12+13+14)
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Data Center and DR																
	<Component 1>																
	<Component 2>																
2	ERC and SERC																
3	Ambulances and MMUs																
4	Connectivity																
5	Additional Components or devices, if any																
	Total (INR)																

Detailed Breakup of OPEX Cost for the Solution

SI No	Solution Name	Y1 Cost (INR)	Y1 Taxes (INR)	Y2 Cost (INR)	Y2 Taxes (INR)	Y3 Cost (INR)	Y3 Taxes (INR)	Y4 Cost (INR)	Y4 Taxes (INR)	Y5 Cost (INR)	Y5 Taxes (INR)	Y6 Cost (INR)	Y6 Taxes (INR)	Y7 Cost (INR)	Y7 Taxes (INR)	Total Cost (INR) (1+2+3+4+5+6+7+8+9+10+11+12+13+14)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Solution Name (e.g. CAD solution, GIS Solution etc.)															
2																
3																
4																
5																
	Total (INR)															

Detailed Breakup of OPEX Cost for the Manpower

SI No	Solution Name	No of Personnel	Y1 Cost (INR)	Y1 Taxes (INR)	Y2 Cost (INR)	Y2 Taxes (INR)	Y3 Cost (INR)	Y3 Taxes (INR)	Y4 Cost (INR)	Y4 Taxes (INR)	Y5 Cost (INR)	Y5 Taxes (INR)	Y6 Cost (INR)	Y6 Taxes (INR)	Y7 Cost (INR)	Y7 Taxes (INR)	Total Cost (INR) (1+2+3+4+5+6+7+8+9+10+11+12+13+14)
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Project Director																
2	Project Manager (108 services)																
3	Project Manager (104 services)																
4	.																
5	.																
6	.																
7	COs																
8	DOs																
9	ERCPS																
10	IOs																
	.																
	Total (INR)																

11. Emergency Response Center Agency - Draft Contract Agreement

This agreement made this ____ day of ____ 20__ between **the Dr. YSR Aarogyasri Health Care Trust, Government of Andhra Pradesh** (hereinafter called "Client" which expression shall, where the context so admits, be deemed to include his/her successors in office and assignee) of the one part

AND

M/s. _____, a Company and having its registered Office at _____ (**Lead Member of the Consortium**), M/s. _____, Company and having its registered Office at _____ (**Consortium member 1**) and M/s. M/s. _____, a Company (**Consortium member 2**) and having its registered Office at _____, irrevocably constituted a Consortium and is declared a selected bidder and awarded the project (hereinafter called "**Agency**" or "**ERC Agency**") which expression shall, where the context so admits, be deemed to include its heirs, successors, executors and administrators) of the other part.

Whereas the Agency has been selected through a competitive bidding process for establishing an "Emergency Response Center for 108 and 104 services in Andhra Pradesh (hereinafter called "the Project") in the manner set forth in the terms of the Request for Proposal (RFP) included as Annexure with this Contract Agreement.

And whereas the Client on acceptance of the aforesaid proposal of the Agency, issued Letter of Award dated _____ (the "LOA") to the Service Provider.

And whereas the Service Provider has provided a Performance Security for a sum of Rs/- (Rupees), in the form of Bank Guarantee, issued formhaving branch at, before signing of this agreement.

Now THEREFORE the parties hereto agree as follows:

1. The following documents attached here shall be deemed to form an integral part of this contract:
 1. Annexure 1: RFP document including following:
 - i. Addendums / Corrigenda if any
 2. Letter of proposal
 3. Particulars of Agency

4. Bill of Material covering the following
 - a. Hardware infrastructure finalizedized at ERC and SERC
 - b. Hardware infrastructure finalizedized at Ambulances and MMUs
 - c. Software Solution Licenses finalized for Emergency response services
 - d. Functional Compliance of the Solution
 5. Price Bid
 6. Consortium Agreement
 7. Power Attorney for Lead Member of Consortium
 8. Letter of Award
 9. Letter of Acceptance
 10. Performance Security
2. The mutual rights and obligations of the Client and the Agency shall be as set forth in the Contract, in particular:
- a. The Agency shall carry out the Services in accordance with the provisions of the Contract; and
 - b. The Client shall make payments to the Agency in accordance with the provisions of the Contract

3. Period of Engagement

The Agency will be engaged for a period of 7 years from the date of signing of the Contract. However, detailed provision for modification or termination from the contract and related penalties are stated in subsequent paras.

4. Work to be performed by Agency

4.1 Establish Emergency Response Center and Secondary ERC

The Scope of work is to establish an ERC (Emergency Response Center) and provide Integrated Technology, Software, Applications, Networking, Connectivity and Manpower necessary to carryout Emergency response Services and 104 Services through ERC. With the establishment of an integrated ERC, response times are expected to reduce substantially across the services right from taking the call, screening the call, dispatching, providing care on the scene and enrout and follow up.

The proposed ERC will be operated from the furnished premises with a 100-seater capacity which will be provided by the Client at APIIC, Mangalagiri, Guntur district to house Communication

Officers, Dispatch Officers, Emergency Response Center Physicians (ERCP), follow-up, feedback collection, Supervisors, Quality Control, 104 information, advice / counselling, grievance collection staff etc. In addition, a Secondary ERC (SERC) with 15-seater capacity is required to be setup at Tirupati where the physical infrastructure will be provided by the client. The proposed SERC shall have a capacity to handle 20% volume of the calls that are received at the primary ERC.

4.2 Resources and Call volumes for 108 services

Emergency response services shall operate in three shifts each day on all seven days in a week. The following shifts along with the approximate load breakup for calls / dispatches are proposed as below:

- i. 8 am – 2 pm (30% to 35% of estimated calls in a day)
- ii. 2 pm – 8 pm (50% of estimated calls in a day)
- iii. 8 pm – 8 am (15% to 20% of estimated calls in a day)

The following number of officers shall be deployed in the ERC, SERC for emergency response services and 104 services per peak shift.

Estimated Resource requirement for 108 services in each shift at ERC							
Shifts	Estimated percentage of calls in each shift	COs	DOs	ERCPs	Supervisor	Feedback	QC
8am -2pm	35%	28	12	4	4	4	4
2pm-8pm	50%	40	16	5	5	5	5
8pm-8am	15%	12	5	2	2		
Total		80	33	11	11	9	9

Estimates Resource requirement for 108 services at SETC		
S. No	Service Type	Distribution of Seats at SERC
1.	COs for Call taking	7
2.	DOs for dispatch	4
3.	Emergency Response Center Physicians (ERCP)	1
4.	Supervisors	1
5.	Feedback / Follow up (Outbound)	1
6.	Quality Auditors for Call taking, dispatching etc.	1
	Total Seating	15

The resources indicated for SERC will be deployed for all the three shifts.

4.3 Resources and Call volumes for 104 services

The 104 services will operate in two shifts each day on all seven days in a week. The following shifts along with the approximate load breakup for calls are proposed as below:

- iii. 8 am – 3 pm (40% to 45% of estimated calls in a day)
- iv. 3 pm – 10 pm (55% to 60% of estimated calls in a day)

Estimated Resource requirement for 104 services in each shift								
Shifts	Estimated Percentage of calls per shift	IOs	Medical Advisor	Medical counseling	Grievances	Supervisors	Feedback	QC
8am -3pm	40%	8	3	2	2	2	2	2
3pm-10pm	60%	12	4	2	2	2	2	2
Total		20	7	4	4	4	4	4

4.4 Overall responsibilities of the Agency

The Agency shall provide a complete solution duly considering the call volumes, staffing, technology components such as hardware, software, networking and connectivity requirements of both ERC and SERC including DC and DR.

The selected bidder shall deliver the solution including supply, design, customization, integration, installation, commissioning and rollout the of ERC and SERC for both 108 and 104 services. Further, the selected agency shall maintain, upgrade and manage the entire solution including operations and maintenance of the ERC and SERC for a period of Seven (7) years (inclusive of time taken till Go-Live).

The following are responsibilities of selected bidder in establishing and managing ERC and SERC.

S. No	Area	Responsibilities the bidder
1.	Project Plan	Project Plan with key milestones timelines
2.	Functional and Technical Documentation	Deliver all required documentation like FRS, SRS, Design documents, test cases etc. for the stack of applications to be deployed at ERC and SERC
3.	Call center License for ERC and SERC	Obtain the license for ERC and SERC (for Call Centre operations) for the Emergency response services in Andhra Pradesh, as per the norms
4.	PRI Lines for ERC and SERC	Providing adequate PRI lines at the ERC and SERC sites. The PRI lines shall be provided from two different service providers to maintain redundancy required at ERC and SERC. The PRI lines shall be separate for 108 and 104 services

S. No	Area	Responsibilities the bidder
5.	Development and Maintenance of Applications	Ensure development, testing, deployment and maintenance of the stack of applications required at the ERC and SERC as per approved project plan.
6.	Hardware at ERC and SERC	Supply, installation, configuration, testing, commissioning and maintenance of the infrastructure (hardware and software) such as IP phones, Desktops, Laptops, Videowall, Projectors, Printers, Storage etc. at ERC and SERC. The selected bidder is also responsible for end to end monitoring and maintenance of the hardware and other infrastructure provided by client.
7.	Hardware and connectivity at the Ambulances and MMU vehicles	Supply, installation, configuration, testing, commissioning and maintenance of the infrastructure (hardware and software) such as Mobile Data Terminals (MDT), Internet Connectivity, Cameras, Videowall, Projectors, Printers, Storage etc. at Ambulances and MMUs.
8.	Deployment of manpower at ERC and SERC	Ensure deployment of required manpower (Communication Officers (CO), Dispatch Officers (DO), Emergency Response Center Physicians (ERCP), Feedback, Information Officers, Medical counsellors, Medical advisors, Quality control etc.) for ERC and SERC as per the approved plan
9.	Connectivity between DC, DR, ERC and SERC	The selected bidder shall provide specified connectivity and maintain ERC, SERC, DC and DR in a crisscross manner.
10.	Backup and replication of applications and database	Ensure configuration, management and maintenance related to backup and replication of the applications at DC and DR.
11.	Network and Security Infrastructure	Supply, installation, configuration, testing and commissioning of network infrastructure like firewall (SDWAN), core switch, managed access switches etc. and Security infrastructure at ERC and SERC and the firewall (SDWAN) at DC and DR.
12.	Coordination with APSDC	Work with APSDC personnel in close coordination for setting up and maintenance of DC, DR for ERC and SERC site
13.	Power Backup	Setting up of appropriate power backup such as, UPS and DG set (including the supply of diesel) and any other components at ERC and SERC.
14.	Business intelligence and Analytics	Implement Analytics and Business Intelligence Tools for reporting and dashboards to the client.

S. No	Area	Responsibilities the bidder
15.	Training	Provide Training to all officials such as communication officers, dispatch officers, supervisors, ERCs and other staff identified by the client.
16.	SLA Adherence	Provide end to end ERC and SERC services duly adhering to the SLAs

The Client will extend the following support with respect to the activities above

- a) The hardware infrastructure (i.e. servers) limited to hosting the applications required at the DC and DR will be provided as per the sizing and performance requirements at ERC and SERC.
- b) Ensure support from APSDC in all aspects related to managing the applications that are hosted on APSDC.
- c) Ensure support from the Ambulance integrators, MMU integrators and Service Providers for installation, configuration and testing of the components to be installed in the Ambulances and MMUs.

4.5 Functional Requirements of ERC and SERC

<Placeholder for Functional requirements compliance submitted by Agency>

4.6 Bill of Material (BOM)

<Placeholder for BOM proposed by Agency and finalized in consultation with Authority / Client>

4.7 Proposed Manpower

<Placeholder for manpower proposed by Agency>

5. General Conditions of Contract

5.1 Definitions

- a. **“Bidder”** shall mean organization or consortium submitting the proposal in response to this RFP.
- b. **“Contract or Agreement”** means the Agreement entered into between the Client and the selected bidder or Agency, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- c. **“Contract Documents”** means the documents listed in the Contract Agreement, including any amendments thereto.

- d. **“Contract Price”** means the price payable to the Agency as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- e. **“Day”** means calendar day.
- f. **“Completion”** means the fulfillment of the Related Services by the Agency in accordance with the terms and conditions set forth in the Contract.
- g. **“Client”** means the entity purchasing the Services.
- h. **“Agency”** means the bidder who is selected by the Client at the end of this RFP process. The agency will carry out all the services mentioned in the scope of work of this RFP.
- i. **“Go- live”** means commissioning of project after installation of all hardware, software, deployment of manpower including training as per scope of work for ERC, SERC and DC, DR, Ambulances, MMUs and other locations as mentioned in the RFP document. Bidder should have the approval from Client for user acceptance testing. Client should be able to perform all the operations from their defined location for emergency response services.

5.2 Interpretation

In this Contract unless a contrary intention is evident

- a. the word “include” or “including” shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- b. unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;
- c. a word in the singular includes the plural and a word in the plural includes the singular

5.3 Relationship between the parties

Nothing in the Contract shall be deemed to constitute a partnership between the Parties or to constitute either Party as the agent of the other.

5.4 Law Governing the Contract

The Contract shall be governed by and interpreted in accordance with the laws of India.

Any dispute or claim or cause of action arising out of or in connection with this Contract shall be subject to the Jurisdiction of Courts at Vijayawada. The laws of the State of Andhra Pradesh and India shall apply to any such proceeding arising out of or in connection with this agreement.

5.5 Language

The language for communication shall be English, unless otherwise modified by the Client

All bids, responses, communications, reports and recommendations given by the Agencies / bidders under these GCC shall be in “English”.

5.6 Notices

Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the Special Conditions of Contract. The term “in writing” means communicated in written form with proof of receipt.

A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

5.7 Taxes and Duties

1. All the Bidders are requested to familiarize themselves with the laws, rules and regulations prevailing in India and consider the same while developing and submitting their Proposal.
2. All Goods & Services tax (GST), customs duties, excise duties and other levies payable by the Agency on goods, equipment, components and any other items used for their consumption or dispatched directly to Client by the Agency or their sub-Agency shall be included in the bid price and any such taxes, duties, levies additionally payable will be to Client’s account and no separate claim on this account will be entertained by the Client.
3. The Agency shall be liable and pay all non-Indian taxes, duties, levies, lawfully assessed against the Client or the Agency in pursuance of the Contract, if applicable. Tax liability, if any, on Agency’s personal income & property shall be borne by the Agency and shall be the responsibility of the Agency as per Tax Laws of India.
4. Client shall be entitled to deduct applicable tax (if any) at source as per Indian Laws from all payments due to the Agency under the contract.
5. If any rates of taxes/duties/levies (hereinafter called ‘Tax’) are increased or decreased, a new Tax is introduced, an existing Tax is abolished or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Agency in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made fully taken into account any such change by addition to the Contract Price or deduction there from, as the case may be.

5.8 Effectiveness of Contract

This Contract shall come into force and effect on the date (the “Effective Date”) of the Client’s notice to the Agency, instructing the Agency to begin carrying out the Services.

5.9 Agency’s Obligations

Agency’s obligations shall include all activities as specified by Authority in the Scope of Work and other sections of the RFP and Contract and changes thereof, to enable Client to meet the objectives and operational requirements.

5.9.1 Related to Ambulance Integrator, MMU Integrator and Service Provider

Agency will be responsible to ensure the proper and successful implementation, performance and continued operation of the proposed solution and operation of the in-fleet equipment in Ambulances and MMUs in accordance with and in strict adherence to the terms of his Bid, the Tender and this Contract.

Agency shall be responsible on an ongoing basis for coordination with other vendors and agencies of the client / department in order to resolve issues and oversee implementation of the same.

The Agency shall provide services to manage and maintain the said infrastructure along with manpower provided at all sites as mentioned in this RFP document

5.9.2 People related

- I. Agency shall be responsible to ensure compliance to all statutory obligations in respect of the staff engaged or deployed by him under the contract (including Payment of minimum wages, ESIC Contribution, PF etc.). In case of any upward/downward changes in the minimum wages/ DC rates and its cascading impact on other statutory compliances like PF, ESI, etc. during the contract period, the Client shall reimburse/recover the difference in amount.
- II. Selected Agency shall be responsible to provide manpower to operationalize ERC at Mangalagiri and SERC at Tirupati. It is the Agency’s responsibility to provide adequately trained manpower suitable to perform the project. It is the Agency’s responsibility to provide regular trainings to the deployed manpower. The Selected Agency shall also be responsible to provide transportation facilities as required to all the Communication Officers across 3 shifts at ERC and SERC.
- III. Selected Agency will be responsible for payment of all statutory levies including ESIC Contribution, PF etc. in respect of the staff engaged or deployed by him under the contract. This should comply to all statutory obligations.
- IV. Selected Agency shall also maintain adequate contracted strength ‘on panel’ to enable meeting the replacement or substitution and additional resource requirements within the time period specified in SLAs for such replacements or substitution at all locations.

- V. Client reserves the right to interview the personnel proposed that will be deployed as part of the project team. If found unsuitable, the Client may reject the deployment of the personnel. But ultimate responsibility of the project implementation shall lie with the Selected Agency.
- VI. Client reserves the right to change the personnel which shall be communicated to the Selected Agency. The Selected Agency with the prior approval of the Client may make additions to the project team. He/They shall provide the Client with the CVs of Key Personnel and provide such other information as may reasonably be required. The Client also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, the Selected Agency shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members. Selected Agency shall always be the Principle Employer for outsourced manpower.
- VII. The Selected Agency shall ensure that none of the Key Personnel (refer Clause 5.11 of Section 5 of this RFP) proposed and manpower, exit from the project during first 3 months or till go-live of the project, if Letter of Intent (LoI) is issued within 3 months of bid submission.
- VIII. The minimum salaries (CTC) to be paid to staff of Agency for the following roles shall be as follows:
 - I. Communication Officer / Information Officer: Rs 15,000 per month
 - II. Dispatch Officer: Rs 18,000 per month

Agency must suitably factor in a reasonable yearly increment as well throughout the term of the project.

- IX. The Selected Agency shall ensure that the deployed team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. The Selected Agency shall ensure that the services are performed through the efforts of the deployed team, in accordance with the terms hereof and to the satisfaction of the Client. Nothing in this Contract relieves the Agency from its liabilities or obligations under this Contract to provide the Services in accordance with the Client directions and requirements and as stated in this Contract and the Bid to the extent accepted by the Client and the Selected Agency shall be liable for any non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.
- X. In case of change in its team members, the Selected Agency shall ensure a reasonable amount of time overlap in activities to ensure proper knowledge transfer and handover or takeover of documents and other relevant materials between the outgoing and the new member.
- XI. The Selected Agency should submit profiles of only those resources who will be deployed on the project. Any change of resource should be approved by the Client and compensated with equivalent or better resource. The Client may interview the resources suggested by the Agency before their deployment on board. It does not apply in case of change requested by the Client.

5.9.3 Spares and Warranty

- I. Selected Agency shall ensure that the Annual Maintenance support for all the components is provided till the end of the contract. The Selected Agency shall ensure that there is a comprehensive onsite warranty or support arrangement for the entire contract period with all the component manufacturers.
- II. Selected Agency shall provision the required extra or buffer critical spares or components at the designated Client office locations in each District in order to ensure that the Ambulances and MMUs adhere to the response times as envisaged through the system.
- III. Selected Agency shall provision the required critical spares or components at the designated Data center Sites or office locations of the Client for meeting the uptime commitment of the components supplied by him.

5.9.4 Solution / Technology related

- I. Selected Agency shall ensure that the system software licenses mentioned in the Bill of Material (BoM) shall be genuine, perpetual, full use and should provide updates, patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of the Client.
- II. Selected Agency shall be fully responsible for deployment or installation or development and integration of all the software and hardware components and resolve any problems or issues that may arise due to integration of components.
- III. The selected Agency shall be responsible for providing the perpetual licenses so as to maintain the IPR and source code (customized/ extension) with the Client.
- IV. All the licenses and support should be in the name of Client.
- V. Selected Agency shall ensure that the OEMs supply equipment or components including associated accessories and software required and shall support the Selected Agency in the installation, commissioning, integration and maintenance of these components during the entire period of contract. The Selected Agency shall ensure that the COTS OEMs supply the software applications and shall support in the installation or deployment, integration, roll-out and maintenance of these applications during the entire period of contract. It must clearly be understood by the Selected Agency that warranty and AMC of the system, products and services incorporated as part of system would commence from the day of Go-Live of system as a whole. However, Given the complexity of the project, the Client may decide to give a provisional Go-live depending on the completion of the core and critical functionalities/ components required for the commissioning of the project as envisaged in the RFP
- VI. The Selected Agency would be required to explicitly display that he or they have a back to back arrangement for provisioning of warranty or AMC support till the end of contract period with the relevant OEMs. The annual maintenance support shall include patches and updates the software, hardware components and other devices.

- VII. All the software licenses that the Agency proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the Client should have the flexibility to use the software licenses for other requirements if required.
- VIII. The Client reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between the Selected Agency and OEMs and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the Client. An executed copy of each of such agreements/contracts shall, immediately upon execution be submitted by the Selected Agency to the Client.
- IX. The Selected Agency shall ensure that none of the components and sub- components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products or solutions end- of-sale subsequently, the Selected Agency shall ensure that the same is supported by the respective OEM for contract period.
- X. If a product is de-supported by the OEM for any reason whatsoever, from the date of Acceptance of the System till the end of contract, the Selected Agency should replace the products/ solutions with an alternate that is acceptable to the Client at no additional cost to the Client and without causing any performance degradation.
- XI. Selected Agency shall ensure that the OEMs provide the support and assistance in case of any problems or issues arising due to integration of components supplied by him with any other component(s) or product(s) under the purview of the overall solution. If the same is not resolved for any reason whatsoever, the Selected Agency shall replace the required component(s) with an equivalent or better substitute that is acceptable to Client without any additional cost to the Client and without impacting the performance of the solution in any manner whatsoever
- XII. Selected Agency shall ensure that the OEMs for hardware servers / equipment supply and/or install all type of updates, patches, fixes and/or bug fixes for the firmware or software from time to time at no additional cost to the Client.
- XIII. The Selected Agency shall ensure that the OEMs for hardware servers or equipment or Selected Agency's trained engineers conduct the preventive maintenance on a Quarterly basis and break-fix maintenance in accordance with the best practices followed in the industry.
- XIV. The Selected Agency shall ensure that the documentation and training services associated with the components shall be provided by the OEMs without any additional cost to the Client.
- XV. The Agency and their personnel or representative shall not alter or change or replace any hardware component proprietary to the Client and/or under warranty or AMC of third party without prior consent of the Client.
- XVI. The Agency's representative(s) shall have all the powers requisite for the execution of scope of work and performance of services under this contract. The Agency's representative(s) shall liaise with the Client representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. The Selected Agency will extend full co-operation to Client representative in the manner

required by them for supervision or inspection or observation of the equipment or goods or material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of the Agency's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Service Providers or Vendors of the Client working at the Client office locations and field locations and DC sites. Such Agency's representative(s) shall be available to the Client Representative at respective Data center during the execution of works.

- XVII. The Selected Agency shall be responsible on an ongoing basis for coordination with other vendors and agencies of the Government of Andhra Pradesh in order to resolve issues and oversee implementation of the same. The Selected Agency shall also be responsible for resolving conflicts between vendors in case of borderline integration issues.
- XVIII. The Agency and their personnel or representative shall not delete, alter or change any data in the system or database for the entire period of the contract. Any such need to delete the data requires prior consent from the Client.
- XIX. The Agency should have a local office in Vijayawada or should furnish an undertaking that the same would be established within one month of Lol / signing the contract in Andhra Pradesh, if project is awarded.

5.9.5 Reporting obligations

The Agency shall ensure that information, records and documentation necessary to monitor the agreement are maintained and are available at all times to the Client or its authorized representative. The Agency hereby agrees that his and all his/her staff shall at all times co-operate with reasonable processes of the Client for monitoring, evaluation and carrying out quality audit and financial audit by any third party authorized by Client.

The Agency further agrees to maintain confidentiality of data and records and commits that such data and records will not be shared with any third party for any purpose.

6 Intellectual Property Rights

- 6.0.1 The Agency must ensure that while using any software, hardware, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person or Company. The Selected Agency shall keep the Client indemnified against all costs, expenses and liabilities howsoever, arising out of any illegal or unauthorized use (piracy) or in connection with any claim or proceedings relating to any breach or violation of any permission / license terms or infringement of any Intellectual Property Rights by the Selected Agency or its Team during the course of performance of the Services. The Selected Agency's liability is excluded regarding any claim based on any of the following
 - a. anything Client provides which is incorporated into the Solution;
 - b. the Client modification of the solution;
 - c. the combination, operation, or use of the solution with other materials, if the third-party claim has been caused by the combination, operation or use of the solution

- 6.0.2 Client shall own and have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to all processes, products, specifications, reports and other documents which have been newly created and developed by the Selected Agency solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract. The Selected Agency undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the Client, execute all such agreements or documents and obtain all permits and approvals that may be necessary in regard to the Intellectual Property Rights of the Client.
- 6.0.3 Notwithstanding the above, it is agreed that nothing contained herein above shall be applicable to Agency's pre-existing materials and working papers (i.e. Materials owned by the Agency which were created and developed prior to this Agreement without direct reference to the deliverables under this Agreement) which may now be incorporated by the Agency into the final deliverables/reports or the like, supplied to the Client hereunder in the course of delivering Services pursuant to this Agreement. However, in the event any such pre-existing material is used in the deliverables/reports provided to the Client by the Agency, the Agency hereby agrees to grant the Client an irrevocable, non-transferable, non-exclusive, paid-up, royalty free and perpetual license to use such pre-existing material as it exists in the deliverable/ reports prepared by the Agency as a part of this Agreement."
- 6.0.4 If Client desires, the Selected Agency shall be obliged to ensure that all approvals, registrations, licenses, permits and rights etc. which are inter-alia necessary for use of the goods supplied / installed by the Selected Agency, the same shall be acquired in the name of the Client, prior to termination of this Contract and which may be assigned by the Client to the Selected Agency for the purpose of execution of any of its obligations under the terms of the Bid, Tender or this Contract. However, subsequent to the term of this Contract, such approvals, registrations, licenses, permits and rights etc. shall endure to the exclusive benefit of the Client.
- 6.0.5 The Agency shall not copy, reproduce, translate, adapt, vary, modify, disassemble, decompile or reverse engineer or otherwise deal with or cause to reduce the value of the Materials except as expressly authorized by Client in writing.

6.1 Termination of Contract for failure to become effective

If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as shall be specified in the SCC if any, either Party may, by not less than four (4) weeks' written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto

6.2 Expiration of Contract

Unless terminated earlier pursuant to Clause 8.18 here of, this Contract shall terminate at the end of such time period after the Effective Date as shall be specified in the Agreement.

6.3 Entire Agreement

This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

6.4 Modifications

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties and shall not be effective until the consent of the Client, as the case may be, has been obtained. Each Party shall give due consideration to any proposals for modification made by the other Party.

6.5 Force Majeure

Force Majeure means any circumstances beyond the control of the parties, including but not limited to:

- a) war and other hostilities, (whether war be declared or not), invasion, act of foreign enemies, mobilization, requisition or embargo;
 - b) ionizing radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosives, or other hazardous properties of any explosive nuclear assembly or nuclear components thereof.
 - c) rebellion, revolution, insurrection, military or usurped power and civil war;
 - d) riot, commotion or disorder, except where solely restricted to employees of the Contractor.
4. The performance of the obligations of the Affected Party shall be suspended for the duration of an event of Force Majeure. Upon cessation of an event of Force Majeure, these GCC shall again become fully operative and the Affected Party shall immediately resume its performance.
 5. If the suspension of performance continues for more than 30 (thirty) consecutive calendar days, then Client may immediately terminate these GCC by written notice to the Agency

6.6 Suspension

The Client may, by a notice in writing suspend the agreement if the Agency fails to perform any of his obligations, provided that such notice of suspension-

- a) Shall specify the nature of failure, and
- b) Shall request remedy of such failure within a period not exceeding 15 days after the receipt of such notice.

6.7 Termination

The Client after giving 30 days clear notice in writing expressing the intention of termination by stating the ground/ grounds on the happening of any of the events related to 6.6 a above, may terminate the agreement after giving reasonable opportunity of being heard to the Agency

- a) If the Agency does not remedy a failure in delivery of his obligations within 15 days of receipt of notice or within such further period as the Client have subsequently approved in writing.
- b) If the Agency becomes insolvent or bankrupt.
- c) If, in the judgment of the Client the Agency is engaged in corrupt or fraudulent practices in competing for or in implementation of the project.

6.8 Arbitration

If any dispute arises in relation to the application or interpretation of any provision of the contract or both, the parties shall resolve it in accordance with the following procedures mutually agreed upon under the contract: -

- a) through mutual agreement between the contracting parties; or
- b) if the dispute is not resolved under clause (a), through a neutral expert mediator; or
- c) if the dispute is not resolved under clause (b), through arbitration between the contracting parties.
- d) Work / Services to Continue Performance of the contract shall continue during arbitration proceedings unless the Client shall order suspension. If any such suspension is ordered, the reasonable costs incurred by the Client and occasioned thereby shall be added to the Contract Price. No, payments due or payable by the Client shall be withheld because of pending reference to arbitration.

6.9 Venue of Arbitration:

The venue of arbitration shall be Vijayawada

6.10 Valuation on Date of Termination

The Client shall, as soon as possible after such termination, certify the value of the works and all sums then due to the Agency as on the date of termination.

6.11 Payment after Termination

The Client shall not be liable to make any further payments to the Agency until the Works / Services have been completed. When the Works / Services are so complete, the Client shall be entitled to recover from the Agency the extra costs, if any, of completing the Works / Services after allowing for any sum due to the Agency under Sub clause 8.19 (Arbitration). If there is no such extra cost the Client shall pay any balance due to the Contractor.

In case Authority administering this assignment decides to discontinue the project for any reason, the payment of the Agency shall be restricted up to the stage the services have been provided by the Agency based on satisfactory performance.

6.12 Ownership and Transfer of ownership

The Products / Services developed by Agency for Client (the "Work Product") (including any inventions or discoveries arising from the Client know-how provided to Agency to develop the Client products hereunder) and the Client design shall be the exclusive property of Client and all right, title and interest in and to the Work Product shall vest solely with Client.

Agency upon termination or end of contract period pursuant to clause 6.6, 6.7 and 6.14, hereby agrees to transfer and assign to Client, all right, title, and interest, of the work product including the product design (and any improvements or modifications thereto), any and all Software, Hardware, Licenses, Deliverables of the work product.

For the avoidance of doubt, Work Product does not include any Intellectual Property Rights that Agency may at any time have or acquire in or to its general know-how and manufacturing process of the Products.

6.13 Effect on Liability for Delay

The Agency's liability shall immediately cease when the Client expels him from the Contract without prejudice to any liability there under that may have already occurred.

6.14 Agency's Default

Notice of default if the Agency is not performing the duties in accordance with the Contract or is neglecting to perform his obligations there under so as to seriously affect the programme for carrying out of the services, the Client may give notice to the Agency requiring him to make good such failure or neglect.

6.15 Nature of Agency's Default

If the Agency:

- A. has failed to comply within a reasonable time with a notice

- B. assigns the Contract or sub-contracts the whole of the Works without the Client's written consent or
- C. becomes bankrupt or insolvent and has a receiving order made against him or compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors or goes into liquidation.

The Client may, after giving 15 days' notice to the Agency, terminate the Contract and expel the Agency. Any such expulsion and termination shall be without prejudice to any other rights of powers of the Client, or the Agency under the Contract.

6.16 Confidentiality

The Agency either during the term or within two (2) years after the expiration of this Contract, should not disclose any proprietary or confidential information relating to the Services, this Contract or the Client's business or operations without the prior written consent of the Client.

6.17 Use of contract documents and Information

The Agency shall not without the Client's prior written consent, disclose the contract or any provision thereof or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Client in connection therewith to any person other than a person employed by the supplier in performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

The Agency shall not, without the Client's prior written consent make use of any document or information enumerated in the above para except for purposes of performing the contract.

Any document other than the contract itself enumerated in the first para of this clause shall remain the property of the Client and shall be returned (in all copies) to the Client on completion of the Agency's performance under the contract if so required by the Client.

7 Special Conditions of Contract

7.0 Mobilization advance

The Agency shall be given mobilization advance for an amount equivalent to the performance security taken from the Client. This mobilization advance shall be given after the receipt of performance security.

7.1 Performance Security

- a) Within 15 days after the Agency's receipt of Notification of Award, the Agency shall furnish Performance Security to the Client for an amount of 10% of the contract value, valid up to 90 days after the date of completion of performance obligations including warranty obligations.
- b) In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months and the Performance Bank Guarantee for proportionate value shall be extended 90 days over and above the extended warranty period.
- c) The Performance Security will be discharged and returned to the Agency not later than 60 days following the date of completion of the Agency's performance obligations, including any warranty obligation, under the contract.

7.2 Schedule

The basic consideration and the essence of the Contract shall be the strict adherence to the schedule specified in the bidding documents and incorporated in the Contract for services.

7.3 Access to Agency's Premises

The Client and/or his authorized representative shall be provided access to Agency's and or its premises, at any time during the pendency of the contract.

7.4 Inspection – Checking - Testing

The ERC / SERC would be inspected by the Client or his authorized representative at the time of launch for conformity with the SLAs.

7.5 Maintenance Services

The Agency must attend all the complaints if any during the period without any additional cost.

7.6 Rejection of Services

If upon launch, whether inspected and approved earlier or otherwise, if service is not in conformity with the SLAs, the same shall be disallowed by the Client or his duly authorized representative and notification to this effect will be issued to the Agency.

7.7 Compliance of regulations

The Agency shall warrant that all goods and services covered by the Work Order have been delivered, tested and installed and are in strict compliance with all applicable laws, regulations and technical codes and requirements as applicable from time to time. The Agency should execute and deliver such documents as may be needed by the Client in evidence of compliance. All laws and regulations required to be incorporated by the Work Order are hereby deemed to be incorporated by this reference. Any liability arising out of contravention of any of the laws in executing the order shall be the sole responsibility of the Agency.

7.8 Insurance

The Agency, at its cost, shall arrange, secure and maintain all insurance as may be pertinent and obligatory in terms of law to protect his interest and interests of the Client against all perils. The insurance covers to be taken by the seller / manufacturer shall be in the name of Client. The Agency shall however be authorized to deal directly with the insurance company.

The insurance required to be taken by Agency shall cover all risks including war, strike, riots and civil commotion etc. Notwithstanding the extent of insurance cover the amount of claim available from the underwriters and the time at which claim is available from the under underwriters, the Agency shall be liable to make good the full availability as per Client's requirements.

7.9 Sub-Letting

The Agency shall not sub-let, transfer or assign any part of this order without the prior written consent of the Client. Copies of sub-contract order shall be forwarded to the Client.

7.10 Terms of payment

- a) Client will make the payment for CAPEX as below after necessary certification. (CERT-IN certified Security audit certificate).

Sl. No	Activity	Payment	Milestone / Approval
1	Mobilization Advance	10%	On submission of unconditional Bank guarantee of equivalent amount
2	On receipt at site (H/W, S/W, components etc.)	50%	Verification by the Client
3	On system integration which includes installation, commissioning, testing	20%	Verification by the client through test reports such as performance test, test cases etc. External agency certifications for security audit such as certificate by CERT-IN certified security audit etc.
4	Go-Live	20%	Approval by the Client

- b) To facilitate this, the Agency will submit invoices with all documents in support of his/her claims upon actual delivery. Based on such invoices, the Client agrees to transfer the amount electronically to the Agency's bank account within fifteen days from submission of invoices.
- c) The OPEX amount shall be paid by the Client shall be paid on a Quarterly basis as per the amount quoted by the Agency in their financial proposal in each year. Any clarifications to the bills submitted will be sought within 7 working days of receipt of bills and payment will be released within 15 working days after receipt of clarifications so sought from the vendor
- d) Both parties agree that the payment arrangements as quoted by the Agency in its bid against this tender enquiry and / or subsequent bid submitted by it as a result of negotiations shall be adhered to.
- e) The Client or any other agency, as per existing rules of the Government, will have the right to examine the invoices as required under relevant rules. If such examination

reveals any extra payment already provisionally made, the extra amount will be adjusted from the payment due to the Agency under intimation to him/her.

7.11 Client Audit

The Agency hereby agrees to maintain all required books of accounts and agrees to provide them to such audit as may be required to be carried out.

7.12 Patent Rights

The Agency shall indemnify the Client against all third-party claims of infringement of patent and rights arising from use of any hardware or software in India.

7.13 Change in number of personnel shall not be change of scope

Notwithstanding anything said elsewhere in this Agreement, modifications in the number of personnel shall not be construed as change in scope. Authority shall modify the payment to the Agency on pro-rata basis in case of any change in the number of personnel proposed by the Client.

7.14 End of service period (Contract Expiry Date)

The contract expiry date is 7 years from the date of signing the contract i.e.

7.15 Service Level Agreements (SLA) and Penalties

7.15.1 SLA Supervision

The Client will review the performance of the selected Agency against the SLA at any given time or duration. The supervision report about the performance of any Services pursuant to this SLA by the selected Agency or any other agency as appointed by Client shall form the basis for imposing Damages/ penalties for breach of contract. The results of said review will be shared by Client with the selected Agency. Client reserves the right to appoint a third-party auditor/ agency to validate the Deliverables under this SLA. Based on the instructions of the Client, the findings of the third-party auditor/ agency shall be accepted and addressed by the Agency with the consultation of the Client.

7.15.2 SLA & Penalty

The SLA specifies the expected levels of service (i.e. baseline service level) to be provided by the successful agency to the various stakeholders. Payment to the agency is linked to the compliance with the SLA metrics laid down in the table provided subsequently. The table also specifies the limits and metrics for lower / higher performance and breach levels.

A summarized metrics of the above-mentioned SLA parameters is provided in the table below and detailed out subsequently.

Agency will get 100% of payment if the baseline performance metrics are complied with (and if no additional penalties are imposed as specified in the RFP). The agency will get lesser payment in case of a lower performance on any parameter.

S. No	Measurement	Target	Penalty
Commencement of work			
1.	Submission of performance bank guarantee after issuance of Lol or notification of award by APMSIDC	a. After 15 days and before 30 days	Forfeiture of EMD
		b. After 30 days	Cancellation of award of notification
2.	Team mobilization and commencement of work	Deployment of all Key Personnel for ERC and SERC (as per the RFP) within 30 calendar days from the date of signing of contract or issuance of Lol, whichever is earlier. None of the Key Personnel of proposed manpower against should exit from the project during first 6 months of the beginning of the project, if Letter of Intent (Lol) is issued within 4 months of bid submission. Even same resource cannot be arranged/adjusted against different profile.	Delay beyond 7 calendar days = 0.1% of the contract value Delay beyond 8-15 calendar days = 0.2% of the contract value Delay beyond 15 days may lead to Termination of the Contract at the discretion of the Client. In case of replacement of resources a penalty of INR 2 lakhs shall be imposed per replacement
Setup of DC, DR, ERC and SERC			
3.	Installation and commissioning of hardware components including local servers, routers, switches, security components and all other hardware required at DC and DR	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay

S. No	Measurement	Target	Penalty
4.	Supply and installation of core hardware and software components of ERC and SERC and its applications.	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay
Setup of Equipment including Network and Security for Ambulances and MMUs			
5.	Functional and Integration testing of all equipment including network, security for MDT, AVLS/GPS and CCTV Cameras in 108 Ambulance and 104 MMU's with ERC and SERC	As per timelines defined in RFP	0.2% of the total value of applicable component per week of delay
Training and deployment of manpower at DC, DR and ERC			
6.	100% deployment of trained manpower at ERC and SERC	As per timelines agreed between Client and SI for deployment of manpower	10% of the monthly cost of the staff for deficit manpower for per week of delay
Go Live			
7.	Go Live for all locations travelling by 108 Ambulance and 104 MMU's	As per timelines defined in RFP	0.1% of the milestone value for per week of delay

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
1	Availability of equipment: - IP Phones - Workstations / Desktops - Gateways	All equipment's should be available 24*7 and any complaint should be resolved within 2 hrs. Equipment should be replaced or repaired	Monthly	>=99.8% availability	-
				>= 99.5% to <99.8% availability	0.2% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
	(Prior approval from the client is a must for any maintenance activity)	after complaint logging by Client Measurement Tool: Reports from EMS			per each incident
				<99.5% availability	1% of Total Quarterly payment per each incident
Availability of DC and DR components					
2.	Availability of each servers at DC & DR: - Application server - Database server (Not attributable to SDC)	Uptime = {1 - [(server downtime- Maintenance Downtime) / (Total Time – Maintenance Downtime)]} Each server violation will be measured separately through NMS tool.	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	0.2% of Total Quarterly payment per each incident
				<99.5%	1% of Total Quarterly payment per each incident
3.	Availability of the ERC and SERC solutions components i.e. CAD solution, IPPBX, ACD, CTI, GIS and other relevant component of these solution.	Uptime = {1 - (Application downtime maintenance downtime) / (Total Time – maintenance downtime)} Measurement Tool: Reports from NMS	Monthly	>=99.8%	-
				>= 99.5% to <99.8%	0.2% of Total Quarterly payment per each incident
				<99.5%	1% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
					per each incident
4.	Availability of the following solutions / applications: <ul style="list-style-type: none"> • E-Learning / Training application • HRMS • BI Reporting and analytics • Citizen App • SMS Gateway • Management System etc. 	Uptime = {1 (Application downtime maintenance downtime) / (Total Time – maintenance downtime)} Measurement Tool: Reports from EMS	Monthly	>= 98%	-
				>= 95% to <98%	0.1% of Total Quarterly payment per each incident
				<95%	0.5% of Total Quarterly payment per each incident
5.	DR Drill	Bidder shall conduct DR drills every six months and/or as per the requirement of Client	Half yearly	100% as per schedule and/or request from Client	-
				For any violation of the DR policy.	0.5% of Total Quarterly payment per each incident
Manpower Availability					
6.	Availability of all resources at designated ERC and SERC as per requirement defined in the	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100	Monthly	Monthly >= 95% -	-
				>=90 % to < 95%	0.5% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
	RFP and as proposed by the Agency and agreed by the Client	Measurement Tool: Biometric Attendance Reports			per each incident
				< 90 %	2% of Total Quarterly payment per each incident
	Availability of the Attendance report of the Service providers of Ambulances and MMUs	[(Actual number of man-days deployed for a month) / (Agreed Total number of man-days in a month)] *100 Measurement Tool: Biometric Attendance Reports	Monthly	Monthly >= 96%	-
				>=95 % to < 96%	0.1% of Total Quarterly payment per each incident
				< 95 %	1% of Total Quarterly payment per each incident
Maintenance of ERC and SERC premises					
7.	Maintenance, repair and replacement of Furniture at ERC as per scope	Repair or replacement of the damaged furniture Client inspection and reporting	Monthly	>= 90% of issues to be analyzed and resolved in 3 business days	0.1% of Total Quarterly payment per each incident
				<90 %	0.1% of Total Quarterly payment

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
					per each incident
8.	Cleaning & Maintenance Cafeteria items like Water purifier & cooler, Drinking water facility, Rodent repellent as per scope of ERC	Drinking water and cafeteria inspection shall happen at any fixed schedule in a month and Client will log complaint for any issue related to water facilities Cafeteria will be inspected and problems will be reported by the Client	Monthly	>= 90% of issues to be analyzed and resolved in 1 business day	0.1% of Total Quarterly payment per each incident
				<90 %	0.1% of Total Quarterly payment per each incident
Call Handling					
	Average amount of time to respond to the call. This includes the amount of time caller waits in a waiting queue ASA to be reviewed on a monthly basis.	Average Speed to Answer (ASA) System generated reports to be considered to review the ASA	Monthly	>=98% of the calls to be attended within 5 seconds	-
				>=96% and <98% of the calls to be attended within 5 seconds	0.001% of Total Quarterly payment per each incident
				<96% of the calls to be attended within 5 seconds	0.002% of Total Quarterly payment per each incident

Performance levels					
Sl. No	Definition	Measurement	Measurement Interval	Target	Penalty
	Average Handle Time (AHT) refers to the time taken to manage a call and initiate dispatch of Ambulance. AHT shall be calculated as the sum of average talk time, hold time and transfer of calls to dispatch officer and initiate the dispatch of the ambulance.	Average Handle Time (AHT) Compliance Inbound Actionable Calls, against which event is created Reports to be taken by SLA monitoring tool or reports generated by SI.	Monthly	AHT of 3 to 3.5 Minutes	-
AHT of >3.5 to 4 Minutes				0.001% of Total Quarterly payment per each incident	
AHT > 4 Minutes				0.002% of Total Quarterly payment per each incident	
SLA Reports for monitoring Service Providers					
	Reports of the SLA adherence of the Service Providers shall be made available through System generated reports to the Client	System generated reports	Monthly	Monthly >= 96%	-
>=95 % to < 96%				0.1% of Total Quarterly payment per each incident	
< 95 %				1% of Total Quarterly payment per each incident	

In case of any unplanned downtime due to any reason whatsoever, the problem shall be rectified within a span of 30 mins.

7.16 Other Conditions

7.16.1 Site visit by Bidders

- a) The bidders are required to visit the APIIC premises at Mangalagiri, Guntur district to assess the actual sizing and the BOM requirements before submitting the bid against this RFP.
- b) The BOM provided at the section 5.7 of this document is indicative. It is the Bidders responsibility to assess and provide additional requirements, if any. Any hardware requirements / equipment which is essential for the functioning of the ERC and SERC and missed out by the bidder as part of their bid, shall be provided to the client with no additional cost.

7.16.2 Change Requests

- a. No change requests is permitted during the contract period. The selected agency shall provide all requirements at no additional cost.

7.17 Saving Clauses

In the absence of any specific provision in the agreement on any issue the guidelines issued/to be issued by the Client shall be applicable.

In witness thereof the parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written

For and on behalf of Dr. YSR Aarogyasri Health Care Trust

.....
Authorized Representative
Name, Designation and Sign

Witness No.1.

Name:
Address:
Signature:

For and on behalf of Agency

.....
Authorized Representative
Name, Designation and Signature

Witness No.2.

Name:
Address:
Signature

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